

2447

ANNUAL REPORT
UPON THE
HEALTHINESS OF THE
CITIZENS,
AND UPON THE
SANITARY CONDITION
OF THE
CITY AND COUNTY
OF
NORWICH.

FOR THE YEAR

1914,

BY

THE MEDICAL OFFICER OF HEALTH.

NORWICH:

Gibbs & Waller, Ltd., Lithographers and Account Book Manufacturers, Colegate Street.

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CITY OF NORWICH.

HEALTH COMMITTEE.

The Lord Mayor :

JOHN GORDON GORDON-MUNN, ESQ., M.D.

Chairman :

MR. ALDERMAN MORSE, J.P.

Vice-Chairman :

MR. COUNCILLOR CROTCH, J.P.

Members :

MR. ALDERMAN SHORTEN	MR. COUN. INGRAM
„ COUN. BASSINGTHWAIGHTE	„ „ LEMON
MISS „ CLARKSON	„ „ ODHAMS, M.D., J.P.
MR. „ DARRELL, M.D.	„ „ SHRIMPTON
„ „ GOWEN	„ „ STEWARD
„ „ HAWES	„ „ WITARD

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PREFACE.



TO THE CHAIRMAN AND MEMBERS OF THE NORWICH
URBAN SANITARY AUTHORITY.

MY LORD MAYOR AND GENTLEMEN,

I submit herewith my Annual Report for the year 1914 as your Medical Officer of Health.

The birth-rate for the year (1914), 20·29 per 1000 of the population at all ages, is lower than it was in 1913, viz., 22·04 per 1000, the average rate in the 96 great towns being 25·0 per 1000. In this connection the effect of recent emigration is to be remembered. Unless the fall be accompanied by an increased saving of life amongst those already born, the effect of a falling birth-rate is to reduce our population, and relatively to diminish our importance. Last year, unfortunately, relatively increased salvation of infant life did not take place—the infantile mortality rate being 114·7 per 1000 births, whereas in 1913, it was 112. Of the infants born there was a female majority of 31, in 1913 the male majority was 4. 135 of the children born were known to be illegitimate (in 1913 there were the same number); and the mortality rate for these luckless infants was, as usual, much higher than for those born in lawful wedlock. The special infantile mortality rate among *the illegitimate* children being 155 per 1000 births, the corresponding rate among the legitimate being 114 per 1000 births. In other words the chances of surviving for one year for the illegitimate compared with those possessed by the legitimate are roughly as 3 is to 4. This largely preventible leakage of lives among illegitimate children would attain to even greater volume were it not for the efforts made by the Health Visitors, and by some voluntary workers, to check it.

The gross recorded death-rate, 14·42 per 1000 of the population at all ages, is lower than the average recorded in the 96 great towns, viz., 14·7.

The corrected death-rate (see section headed "Demographical Statistics," p. 21) was 13·38 per 1000, and *the comparative mortality figure* 956—taking 1000 as that for England and Wales as a whole.

The Zymotic death-rate, 0·61 per 1000, is below that for the 96 great towns, taken collectively, which rate is 0·89 per 1000.

The special Zymotic death-rate for diarrhæal diseases up to 2 years of age, which the Local Government Board now asks us to record separately, was for ourselves 21·64; and for the 96 great towns (averaged) 26·09 per 1000 births.

The Infantile Mortality rate, 114·7 per 1000 births, is relatively satisfactory. The corresponding rate in the 96 great towns taken together is 114, so that we come, out 0·7 per 1000 above the average. In 1913 the corresponding figures were 112·5 and 116·5 per 1000 births, when we were 4 per 1000 below the average for the great towns. The infantile mortality rate benefits more than the mere figures suggest, from the attention which has been and is directed to the preservation of infant life throughout the country, indirectly through the slow spreading of intelligence, and directly from the ministrations of Health Visitors—professional and amateur; one wishes also to believe that a heightening sense of responsibility is developing within the community. In our own city an Infants' Welfare Clinic has been started in connection with the Maternity Institute, and a powerful preservative agency for promoting infant life continues to be the help given to badly-nourished mothers by the Sick Poor Society. It is quite true that this Society has lessened the numbers to which formerly it supplied milk, because of the allowance to many of the mothers of maternity benefit under the Insurance Act; but it has commenced to do what it did not do before, viz., grant aid to badly-nourished expectant mothers, mainly in the form of food (dinners). I hope its funds will enable it largely to develop this form of assistance. I feel assured beforehand of its willingness to give it. During the year under review 168 badly-nourished mothers were recommended by me to the Society, and at the end of the year 159 or

94 per cent. had been supplied with milk—with never less than one pint daily, and for periods ranging from two to five weeks, usually for one month. Among the 159 mothers so helped, by this Society, only 6 lost their infants.

In more than the Buddhistic sense, the Sick Poor Society thus has been “acquiring merit,” and ought generously to be awarded it. The difficulty in connection with the furnishing of help to badly-nourished women, both before and after childbirth, in the case of the unmarried, would remain acute were it not for the generous donations of a subscriber to the fund for their assistance to which Mrs. Whitty acts as almoner. If any reader care to entrust any money for this fund, either to myself or to Mrs. Whitty (17, The Crescent), he or she may rely upon its being expended discreetly. No public mention is, nor will be, made of any donation received, nor of its expenditure.

The Notification of Births' Act continues to be of real service. Under its provisions I received notifications of just upon 75 per cent. of all the births that took place in the city last year. I do not concern myself greatly over the non-notification of a birth when a doctor is present at it. Notification in these circumstances is rather a matter for his conscience, is dependent upon his personal conception of citizenship, and the obligations thereof, than a matter of pressing need. I am glad, however, to report a growing practice of notification, especially among the younger doctors. Had Parliament directed that a fee should be paid for each notification—as in my opinion it ought to have done—I should have advised your Authority to adopt a more stringent policy toward non-notifiers than I have done. So long as notification of births at which no doctor is present is secured I am fairly contented. In these cases an early call is made at the dwelling by a Health Visitor, who, where needed, gives advice as to the feeding and care of the newly-born infant, and aids in these and other ways the mother. It is from these visits that I obtain a knowledge of the badly-nourished mothers, and am enabled to recommend them to the Sick Poor Society. The Matron of the Maternity Charity also

calls my attention to ill-nourished mothers when sending in notifications of births attended by midwives attached to the Charity. To prevent delay between our gaining a knowledge of the need for, and the supplying of milk by, the Sick Poor Society, the Health Visitor is authorized to supply it (temporarily) at once, and so delay is avoided. The Health Visitor represents the interest which our civic family, the whole community of the city, takes in the welfare of these, its most helpless and most precious members; and exercised and tempered with discretion this intelligent concern is of real value to the well-meaning but sometimes ill-informed parent, and is also efficacious as a restraint upon, and for reproof of, the indifferent and the indolent. As I have often said before, and do once more repeat:—it is by these means, aided by a heightening of the general level of our communal intelligence, and of the standard of living aimed at, that we most hopefully can expect to improve unsatisfactory elements in the attitude toward the obligations of parenthood adopted by some mothers (and fathers), and to substitute for these a civic consciousness that finely and healthily to rear up a child is a racial duty; the effective discharge of which is one of the most patriotic services that can be rendered alike to our city and the State. Special reports are written on all still-births.

During the year the Health Visitors (who also act as School Nurses) paid 17,460 visits and re-visits to dwellings—3,300 of them in connection with school medical inspections. They found in the dwellings visited 1,521 sick persons. At their suggestion 185 houses and 717 persons were cleansed—more or less effectively—34 of the latter (school children) compulsorily. Of 1,745 newly-born infants visited by them 1,554 were, at the time of the visit, being fed from the breast, 16 from breast and spoon, 23 from *long-tube* bottles, 86 from bottles with short teats, 10 were spoon fed, and 56 partly from breast and partly from bottles, 5 of them from long-tube bottles—a very dangerous variety. 438 of the infants were ailing at the time of the first visit, or, roughly, one in six. Altogether 5,177 visits and re-visits were paid to infants, 1,375 of

of the mothers were "healthy," 175 "healthy but not strong," 56 "very delicate," and 170 "badly nourished"; 51 of them went out to work, and 38 took in work at home. The Health Visitors got bad methods of feeding changed for better ones in 193 instances. 51 still-births were notified during the year, and the births of 14 sets of twins. 67 infants were fed, more or less completely, with "Glaxo" (dried milk), these infants being brought to my offices once a fortnight to be weighed. "Glaxo" proved of benefit to the great majority of them, in some cases of quite remarkable benefit. Of the dwellings visited those having only one bedroom (11 per cent.) contained an averaged population of 3·8 persons at all ages, those having two bedrooms (56 per cent.) 5·4 persons at all ages, or 2·7 per bedroom; those with three bedrooms (30 per cent.) 4·8 persons at all ages, or 1·6 per bedroom; those with four bedrooms (3 per cent.) 7 persons at all ages, or 1·7 per bedroom; and those dwellings which consisted of one room only, *i.e.*, bed and living room (0·16 per cent.) contained an averaged population of 3 persons at all ages. The average population, per dwelling, taking the whole of the dwellings of all sizes in the city together, is estimated to be 4·4 persons at all ages.

The Local Government Board requests that the M.O.H. will state each year, in his annual report, what are the arrangements for carrying out the medical inspection of school children, and furnish a summary of the work done and of the results. The arrangements in this city remain unaltered. The M.O.H. is the School Medical Officer, and is the administrative, advisory, and supervisory officer. The actual inspections, *in the Schools*, being carried out by the Assistant School Medical Officers. The Health Visitors act as School Nurses. The following is a summary of the work done and of the results obtained in 1914. The total number of children examined in the schools was 3,800, made up of 1,765 entrants and 2,033 leavers. Amongst these 3,800 children, 642 were found to have defects requiring medical advice and treatment. The principal defects being naso-pharyngeal obstruction (adenoids, enlarged tonsils, etc.), 237; defects of vision 158; squint 50; ear

disease and deafness 50; and oral sepsis 105; at the end of the year 53·2 per cent. of those deemed by the Medical Inspector to need medical care received it. In the case of some of the untreated, arrangements were being made to obtain treatment in the current year; in the case of some of the others the doctors consulted advised delay, or no treatment; about the relative urgency of operation for adenoids and tonsils, for instance, there is very considerable difference in professional opinion; and some vision cases (leavers) quit the schools soon after the inspection and pass out of our ken; but allowing for these there remain some 20 to 25 per cent. of the cases in which no steps were taken by the parents to obtain advice and treatment. This apathy on the part of the parents is most disheartening to the School Nurses when "following up" the cases; often it is due to inability to realise the risk of leaving a defect, which the parent ignorantly may think to be of a trivial character, unremedied.

352 children were specially examined to determine their fitness for admission to the Open-air Schools at Clare House and Colman Road. At Clare House among the known or suspected tuberculous children, who alone are treated there, 4 boys and 6 girls were reported "cured," and 26 boys and 22 girls "improved," whilst of only 9 boys and 12 girls was "slight or no improvement" recorded. At Colman Road, where a great variety of non-tuberculous ailments was represented, 9 boys and 13 girls were reported "cured," 39 boys and 18 girls "improved," whilst 17 boys and 10 girls exhibited but "slight or no improvement." Children were seen at the Municipal Buildings (sent up by Teachers, Attendance Officers, etc.), to determine their fitness either to remain at, or to be re-admitted to the schools. The special classes at Quay Side School were systematically inspected. Ringworm continues to be a marked cause of loss of attendance at school; 396 cases came under notice.

At the Dental Clinic 1,611 damaged permanent teeth were rendered artificially sound, and 5,733 teeth were extracted. The total number of children treated was 4,607. The vast majority of

the children treated neither makes use of tooth brushes nor practices any method of cleansing the teeth.

The L.G.B. also asks the M.O.H. to give "definite general" information respecting "The methods of control of Tuberculosis" in his district, number of cases notified, "action taken in respect of known cases and deaths," "amount of hospital accommodation for advanced and for earlier cases of disease," etc., etc. Well, in this alluring city the methods of control—to which our rates but not my will consents—remain virtually restricted to the giving of sage advice to the community and sympathetic counsel to the sufferers; to the remedying where practicable, of unfavourable conditions in the home, or work-place, and to disinfection of the abode vacated by the victim in response to "The Beckoning Finger," which sooner or later will summon us all.

From January 1st., 1912, the notification of Phthisis has been obligatory, and since February 1st, 1913, the notification of all forms of tuberculosis has been compulsory, and the obligation has been fairly generally complied with. Holding, as I do, that there are good grounds for believing that only in a minority of the cases of Phthisis is the primary source of infection to be found in the lungs; I am hopeful that we may arrive at a better understanding of the origin of other forms of the disease: whilst thoroughly in agreement with the desirability of not permitting tuberculous sputum, for instance, to become dried into dust, it is my belief the danger to the public from such dust is greater from its potentiality of infecting foods than from possible inhalation into the lungs.

During the year the total number of notifications of tuberculosis which reached me was 247:—200 of pulmonary, and 47 of other forms of tuberculosis. To these 1,288 visits were paid by officers of the Public Health Department. 51 per cent. of the victims were males, 49 per cent. females; 30 per cent. were married, 67 per cent. single; 3 per cent. widows or widowers: 29 per cent. were under 15 years of age, 26 per cent. over 15 and under 25, 38 per cent. 25 and under 45, and the remainder 7 per cent. 45 years and over.

I was afforded the information from which the following statistics are given by 247 of the cases notified. There was evidence of tuberculous taint in the family history in 44 per cent. of these cases; 6 per cent. were following their customary employment, 9 per cent. were housewives, 27 per cent. were school children, and 58 per cent. were not following their employment. At the time of the first visit 37 per cent. had a separate bedroom, 15 per cent. a separate bed in a double-bedded room, and 48 per cent. slept in a bed shared with some other person. 6 of the affected dwellings possessed only one bedroom, average population of dwelling being 3·2 persons; 86 possessed two bedrooms, average population 2·3 persons per bedroom; 104 possessed three bedrooms, average population 1·8 persons per bedroom; 18 possessed four bedrooms, with an average population of 1·7 persons per bedroom; and 8 dwellings possessed five or more bedrooms with an average population of 1·4 persons per bedroom. (On p. 48). I give a list of the occupations followed by these 247 persons, which is of very great intrinsic interest.) 43 per cent. of the 247 were insured persons, 26 per cent. were dependants of insured persons, and 23 per cent. were uninsured; 20 per cent. had received treatment as in-patients in Hospitals or Sanatoria, and 4 per cent. as out-patients.

As in previous years, a number of the Poor Law cases went into the Union Infirmary, for varying periods, and having got benefited came out again, sooner or later to repeat the experience—with a diminishing return to active life. Some cases we got helped by the Sick Poor Society (with milk), and a few through the Charity Organisation Society. The allowance of milk and eggs, “Sanatorium benefits” to the home keeping insured tuberculous has been a needed help to most of the recipients.

There were 144 deaths from Phthisis, and 48 from other forms of tuberculosis. Of the deaths from Phthisis 20 took place in the Union Infirmary. In 1913 the corresponding figure was 24. It is, I think, a fair estimate, which assumes that for every fatal case of Phthisis there are three persons living with the disease. Upon

this basis we can assume that there are over 500 cases of pulmonary tuberculosis in the city at any given time, one fourth of these may reasonably be regarded as curable, one fourth as possibly curable — at any rate temporarily, one fourth as capable of being patched up but of nothing approaching to “cure,” and another fourth as being hopelessly moribund. It has to be remembered that certain cases cure spontaneously, quite apart from and sometimes in spite of “treatment.” Of course, if one of these go to a Sanatorium, or take any quack remedy, the institution or the nostrum obtains credit for the “cure.” That is why practically any form of treatment commonly can produce evidence of apparently *bonâ fide* cures.

As I stated last year, adequately to comply with the recommendations of the Tuberculosis Commission in the matter of providing a Dispensary, Hospital, and Sanatorium beds, etc., a sum of £5,000 per annum roughly is needed. The amount of money in the hands of the Local Insurance Committee is about £1,600. The Local Government Board proffers half the balance if the other half be provided from the rates. As national healthiness is, or ought to be, next to our security, our primary national concern, much more generous subventions ought to be provided by the Treasury. I am still hopeful that we may get a Dispensary opened during the summer. For really preventive work I attach importance to careful and repeated examinations of the growing and the provisions of Open-Air Schools, indeed of residential Open-Air Schools, concurrently with improved housing and better feeding. If good food and fresh air be obtainable there should be comparatively little need for removal to Sanatoria, though, of course, for the poorly fed and badly housed they are both necessary and desirable.

The Union Infirmary admits phthisical patients in no fixed ratio. On January 1st, 1914, there were in that admirable institution 21, and on January 1st, 1915, 16; 50 patients were admitted between these dates for longer or shorter periods, making 71 in all. The greatest number of patients on any one day was 24. There

were 20 deaths, or, roughly, 28 per cent. of fatal cases. The Norfolk and Norwich Hospital sets aside 6 beds for the treatment of the phthisical, and there were no deaths from the disease registered there.

Infectious Diseases.—From an epidemiological standpoint, the year under review has been characterized by the continued prevalence of Scarlet Fever and by an increased amount of Diphtheria. There was very little Enteric. There were 4 cases of Puerperal Fever, with no deaths, but more of Erysipelas. Measles, Whooping Cough, and Diarrhœa were all less prevalent than in 1913, and all relatively less fatal in their effects. Influenza had the same number of deaths attributed to it; 6 more deaths were certified to be due to malignant growths (Cancer, etc.); and 19 less to septic diseases (other than those specified). 2 cases of Poliomyelitis and 1 of Cerebro-Spinal Meningitis were notified. On the whole a goodish record.

The R.M.O.'s detailed report on the treatment carried out at the Isolation Hospital will be found on pp. 26-33 and should be of special interest to those people who think the treatment of Scarlet Fever and its complications, for instance, a trivial matter. The average daily number of patients in the Hospital was 85 (the maximum on any one day 141, the minimum 51); the average length of stay 32·75 (in 1913 this average was 31·8 days). The death rate (all diseases) was 3·5 (in 1913, 3·5). A record of strenuous service.

Ophthalmia Neonatorum (specific inflammation of the eyes of the newly-born).—25 notifications reached me during the year; in 1913 there were 21. In the past as much as 50 per cent. of blindness has been attributed to neglect of this *preventible disease*. On receipt of a notification a Health Visitor calls at the home and sees that the eyes are properly cared for. After April 1st of this year *Ophthalmia Neonatorum* became generally notifiable and special forms are used giving special information.

2,217 certificates of freedom from infection (633 more than in 1913) were given to school children, "contacts," and workers in factories and workshops, enabling the recipients to resume attendance at school or return to work. The R.M.O. made 2,183 bacteriological examinations of cultures from swabs, 13 Widal tests of blood, and 33 examinations for tubercle bacilli in the laboratory at the Isolation Hospital. In 1913 the corresponding figures were 1,941, 38, and 25. In connection with preventive work in limiting the propagation of infectious ailments, I have again to re-affirm the desirability of requiring *Sunday Schools* to conform to the regulations as to floor and air space enforced in the Elementary Day Schools.

Housing and Town Planning Act, 1909.—The number of houses inspected under Sec. 17, was 112; the number of houses considered by me on inspection to be unfit for habitation, 33; I made formal representations respecting 16 houses and unofficial representations of many others. 16 closing orders were made, and 13 others were remedied to the satisfaction of the Health Committee without the issuing of Closing Orders. The most common defects were dampness, want of ventilation, and disrepair. The Health Committee, acting as a Housing Committee, visited at my request, 38 dwellings. In addition to the above 112 dwellings, 1,590 dwellings were inspected and reported on in consequence of notifiable diseases (including Tuberculoses), 165 had defects which had been or are being remedied. The procedure followed in dealing with houses is:—Representation by the M.O.H. to, and then visitation by the Committee, which body determines, after hearing the owners explain any proposals, for improvement they may submit, whether the dwellings shall be closed. Satisfactorily to deal with housing, in my judgment, we need to have a statutory minimum embodied definitely in an Act of Parliament. I attach great importance to dryness, and in this, as in other old cities, interminable trouble arises over the absence of "damp" courses, houses built without these being liable to recurring dampness of the walls. Ground floors, too, need compulsorily to be constructed

of materials impervious to damp, or to have concrete laid upon the soil, and a ventilated air space provided between this and the floors. Six new dwellings suited for artisans were erected during 1914.

Midwives' Act.—There were 25 midwives registered in 1914, 14 of them, for varying periods, in the service of the Maternity Institution. None but registered women are now supposed to act as midwives, but an unregistered woman apparently can so act, provided that she does not specifically call herself a midwife, and such an one does not appear to be amenable to control by law, except as the possible outcome of a Coroner's inquest. I continue to utilize the services of the Health Visitors (who are certificated midwives), in making enquiries respecting still births, etc., and in reporting upon the home surroundings, bedrooms, etc., of the practising midwives.

Factory and Workshops' Act.—280 inspections of factories and workshops were made, and 105 defects reported and remedied. 225 lists of out-workers were sent in (186 of them twice); 409 inspections of out-workers' premises were made. In 78 instances we found out work being done in unsatisfactory premises (section 108), but in none of these instances was it necessary to issue formal notices. Infectious illness occurred in 46 out-workers' dwellings (Sections 109-110), and in none of these either was it necessary to issue formal notices. The total number of workshops on the register was 622, and there remained 4 underground bakehouses (Section 101) in use at the end of the year. In 17 instances H.M. Inspector referred nuisances remediable under the Public Health Acts, but not under the Factory and Workshops' Acts.

Food and Drugs' Act.—240 samples were purchased and submitted to analysis (13 of them to bacteriological), and 8 of the samples were specially taken under the Milk and Cream Regulations, 220 of the samples were certified to be genuine and 20 to be adulterated, the percentage of adulteration being 8·3 (in 1913 it was 10·6). 15 of the vendors were prosecuted, and in 9 of the cases the Bench

convicted the sellers and imposed fines—in no case exceeding £10 and costs—and 5 cases, 1 lime water and 4 milk, it dismissed, and 1 of milk was withdrawn. 4 vendors received cautionary letters. 25 of the samples of milk were taken on Sunday mornings. 13 samples of milk were subjected to bacteriological examination for tubercle bacilli with negative results. A large number of the samples of good milk contained more than the standard amount of cream (3·0 per cent.) evidence that the said standard is not an unduly high one.

The Report of the Chief Sanitary Inspector summarizes the sanitary work carried out during the year, and states what has been done to maintain a sanitary condition in, and to improve the general state of dairies, cowsheds, milkshops, common lodging-houses, etc.—Mr. Brooks also enumerates the changes in the sanitary accommodation at dwellings which have been effected; and the amounts and sorts of food that have been destroyed as being unfit for human consumption.

The Norwich Corporation Act, 1889 (Local Administration Act), and The Public Health Act Amendment Act, 1890, The Public Health Acts Amendment Act, 1907, and Notification of Births Act, 1907, are the general adoptive Acts in force in the district.

Dr. Goldie joined H.M. Naval Medical Service in September, and Dr. Gilson, who succeeded him as R.M.O. at the Isolation Hospital, the Royal Army Medical Corps on January 1st, 1915. 2 porters were called up and 1 enlisted; and at the office my principal clerk was called up, and his successor, together with the senior clerk in the general office, and one of the inspectors enlisted.

The presence in the City of some thousands of troops and recruits as the result of the outbreak of War has necessarily added alike to our duties and responsibilities. It is only fitting that I affirm that every member of the department has worked with zeal and efficiency to cope with the emergency. Our extra labours have been rendered the more agreeable to undertake by the excellent relationships which have been maintained between

the Public Health Department and the Military Authorities. When the War is over I may more properly submit some outline and summary of the special services rendered.

As in private duty bound, I testify that all the members of the Public Health Department have laboured "truly and painfully" (according to our lights) to promote the welfare of the City and the well-being of its citizens.

(Signed),

H. COOPER PATTIN.

May 17th, 1915.

METEOROLOGICAL NOTES.

(From observations taken at Norwich by Mr. Arthur W. Preston,
F.R.Met. Soc., at Norwich.)

		1914.	1913.
Barometer reduced to sea level and 32 deg. Fah., from 9 a.m. and 9 p.m. readings:—	Highest (Jan. 12th and Feb. 28th) ...	30·35	30·67 ins.
	Lowest (Dec. 28th)...	28·50	28·80 ins.
	Mean ...	29·905	29·949 ins.
Temperature—Maximum (July 1st) ...	...	87·3	83·1 deg.
Minimum in Screen (Jan. 24th)		23·3	23·7 „
on Grass (Jan. 1st)		17·0	16·0 „
Mean daily maximum	...	57·4	56·7 „
Mean daily minimum	...	43·5	43·0 „
Mean Temperature of year	...	50·5	49·8 „
Above average by...	...	1·6	0·9 „
Mean daily range...	...	14·8	13·7 „
Mean dry bulb (9 a.m.)	...	51·4	50·6 „
Mean wet bulb (9 a.m.)	...	47·9	47·8 „
Mean dew point (9 a.m.)	...	44·3	44·8 „
Mean relative humidity (9 a.m.)		77 %	81 % „
No. of nights with frost	in screen	40	44
	on grass	100	99
Rainfall—Total fall	... ..	27·62	24·42 ins.
Below average by	... ..	1·07	1·33 „
Greatest fall in one day (Dec. 28th)		1·44	1·19 „
Number of days on which rain or snow fell	... ..	200	184
Number of days on which snow fell		13	11
Wind—Prevailing directions, w., s.w., and s.			
Bright Sunshine—Number of hours recorded during year	... ..	1691·5	1432·9
Above average by	...	108·8	
Below average by	...		149·8
Maximum (June 10th)	...	14·7	14·8
Number of sunless days	...	49	65

Summary of the Geology of Norwich.*

The geological construction of the soil underlying the City is simple in character. The higher levels are made up of glacial beds, through which the valleys have been excavated, exposing at their margins the crag formation and chalk, while gravel and alluvial deposits occupy the lower ground. The chalk, which at Norwich is nearly 1200 ft. thick, and underlies the whole of the City, comes to the surface in the Market Place, and in other places at a similar level; but it may be reached at no great depth in all parts of the Municipal area. The order of the succession of the glacial and crag beds is shown in excavations on the sides of the high ground surmounted by Mousehold Heath, between which Heath and the City proper winds the River Wensum. Except for some layers of peat in the valley, and a bed of brick-earth over part of the higher ground (as, for example, near the Victoria Station), the soil of the City is of a porous character, and much percolation of fluid takes place through the gravels, &c., into the chalk. The general trend of the drainage of the greater portion of the inhabited area of the City is toward the Wensum.

* Compiled from information contributed by Mr. F. W. Harmer, F.G.S.

DEMOGRAPHICAL STATISTICS.

<i>Enumerated Population at the Census of 1911</i> ...	121,478
Estimated Population in the middle of 1914 ...	124,107
Area in Statute Acres	7923
Density of Population (<i>i.e.</i> , number of persons per acre)	15·6
§ Total number of buildings used as Dwellings (1911 Census)	27,824
§ Number of ordinary Dwelling-houses Inhabited (included in above; 1911 Census) ...	25,815
Rateable Value	£471,782
<i>Total number of Births registered in 1914</i> ...	2529
Representing a Birth-rate of	20·29 per 1000
Average Birth-rate of the 96 great towns being	25·0 „
<i>Total number of Deaths registered in 1914</i> ...	1790
Representing a gross recorded Death-rate of ...	14·42 per 1000
* “Corrected Death-rate” for the year ...	13·38 „
† Average Death-rate in the 96 great towns ...	14·7 „
‡ Comparative Mortality Figure	956
Average Norwich Death-rate for the previous 5 years, 1909 to 1913 (inclusive)	13·46 per 1000
<i>Deaths from the six principal Zymotic Diseases</i> ...	77
Representing a Zymotic Death-rate of ...	0·61 per 1000
Average Zymotic Death-rate in the 96 great towns being	0·89 „

* The “Corrected Death-rate” signifies the Death-rate which would obtain in Norwich if the local age and sex distribution were the same as those of the country generally.

† Estimated from the Registrar-General's Quarterly Reports.

‡ Taking 1000 as the mortality figure of the United Kingdom as a whole.

See table on page 51.

Birth, Death and Infantile Mortality Rates for the last 25 Years

Estimated Population.	Year.	No. of Births.	Rate per 1000.	No. of Deaths.	Rate per 1000.	Infantile Mortality Rate.	Natural Increase.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
124,107	1914	2529	20·29	1790	14·42	114·7	739
123,288	1913	2718	22·04	1705	13·82	112·5	1013
122,479	1912	2696	22·0	1566	12·7	102·7	1130
†121,682	1911	2716	22·2	1717	13·9	135·2	999
125,446	1910	2870	22·8	1609	12·8	103·0	1261
124,136	1909	3004	24·2	1737	14·0	119·0	1267
122,841	1908	3152	25·2	1759	14·0	115·5	1393
119,191	1907	2968	25·0	1735	14·6	124·7	1233
117,958	1906	3086	26·2	2084	17·6	172·5	1002
116,741	1905	3205	27·5	1931	16·4	174·0	1274
115,538	1904	3183	27·6	2101	18·2	179·2	1082
114,351	1903	3179	27·8	1737	15·4	149·7	1442
113,178	1902	3213	28·4	1919	16·6	166·7	1294
†111,997	1901	3177	28·1	2090	18·5	182·7	1087
114,855	1900	3250	28·4	2012	17·6	178·2	1238
113,266	1899	3290	29·1	1953	17·3	179·0	1337
111,699	1898	3329	29·9	2112	18·9	194·2	1217
110,154	1897	3354	30·5	2062	18·7	196·2	1292
108,630	1896	3353	31·0	1857	17·1	165·0	1496
107,127	1895	3398	31·7	2066	19·2	191·0	1332
105,645	1894	3137	29·7	1964	18·7	165·0	1173
104,184	1893	3210	30·8	2003	19·2	196·2	1207
102,736	1892	3154	30·7	2049	19·9	180·0	1105
†100,964	1891	3217	31·8	1970	19·5	162·2	1247
95,352	1890	3131	32·8	2006	21·0	182·9	1125
AVERAGES.							
1890-1894	...	3169·8	31·16	1998·4	19·66	177·26	1171·4
1895-1904	...	3272·6	29·25	2090·9	17·75	178·19	1281·7
1905-1914	...	2894·4	23·74	1753·3	14·42	127·48	1131·1

† Census years.

DIFFERENTIAL WARD STATISTICS.

WARDS.				DEATHS.							DISEASES.									
				At all ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and under 65.	65 and over.	Premature Birth.	Diarrhoea.	Other Zymotic.	Phthisis.	Other Tuberculous.	Respiratory.	Cancerous.	Cirrhosis.	Circulatory.
1914.																				
EAST WYMER.	BER STREET	...	...	81	18	5	—	4	2	18	34	2	3	1	4	1	15	10	1	22
	CATTON	...	...	103	23	5	4	7	9	16	39	6	1	3	15	1	12	12	—	21
	CONESFORD	...	...	69	7	2	—	1	6	7	46	2	2	4	3	—	10	7	1	15
	COSLANY	...	...	78	21	9	—	2	7	10	29	4	4	2	9	2	18	5	—	16
	FYE BRIDGE	...	...	68	17	5	1	1	6	10	28	4	1	3	3	6	15	6	—	9
	MOUSEHOLD	...	...	161	44	13	5	6	17	35	41	6	9	9	18	6	29	6	2	31
WEST WYMER.	THORPE	...	...	77	13	4	4	7	7	19	23	2	—	1	3	3	6	8	—	18
	EATON	...	...	181	30	23	11	1	16	32	68	2	3	5	7	14	33	22	—	34
	EARLHAM	...	...	298	12	20	26	9	35	56	140	1	1	41	24	3	27	25	1	67
	HEIGHAM	...	...	115	23	5	7	9	10	22	39	2	4	8	13	3	15	11	—	28
	LAKENHAM	...	...	117	22	13	3	6	4	29	40	2	2	6	4	2	25	9	3	28
	MANCROFT	...	...	39	5	2	2	—	5	8	17	1	—	1	7	—	9	1	—	10
	NELSON	...	...	67	7	1	—	2	6	17	34	1	3	1	8	1	12	2	—	23
	TOWN CLOSE	...	...	232	17	18	22	21	57	61	36	1	2	13	5	6	23	21	5	26
	WENSUM	...	...	47	14	—	—	2	6	12	13	4	4	3	4	1	6	3	1	10
WESTWICK	...	...	88	17	5	2	6	8	22	28	1	5	3	15	3	17	11	—	13	

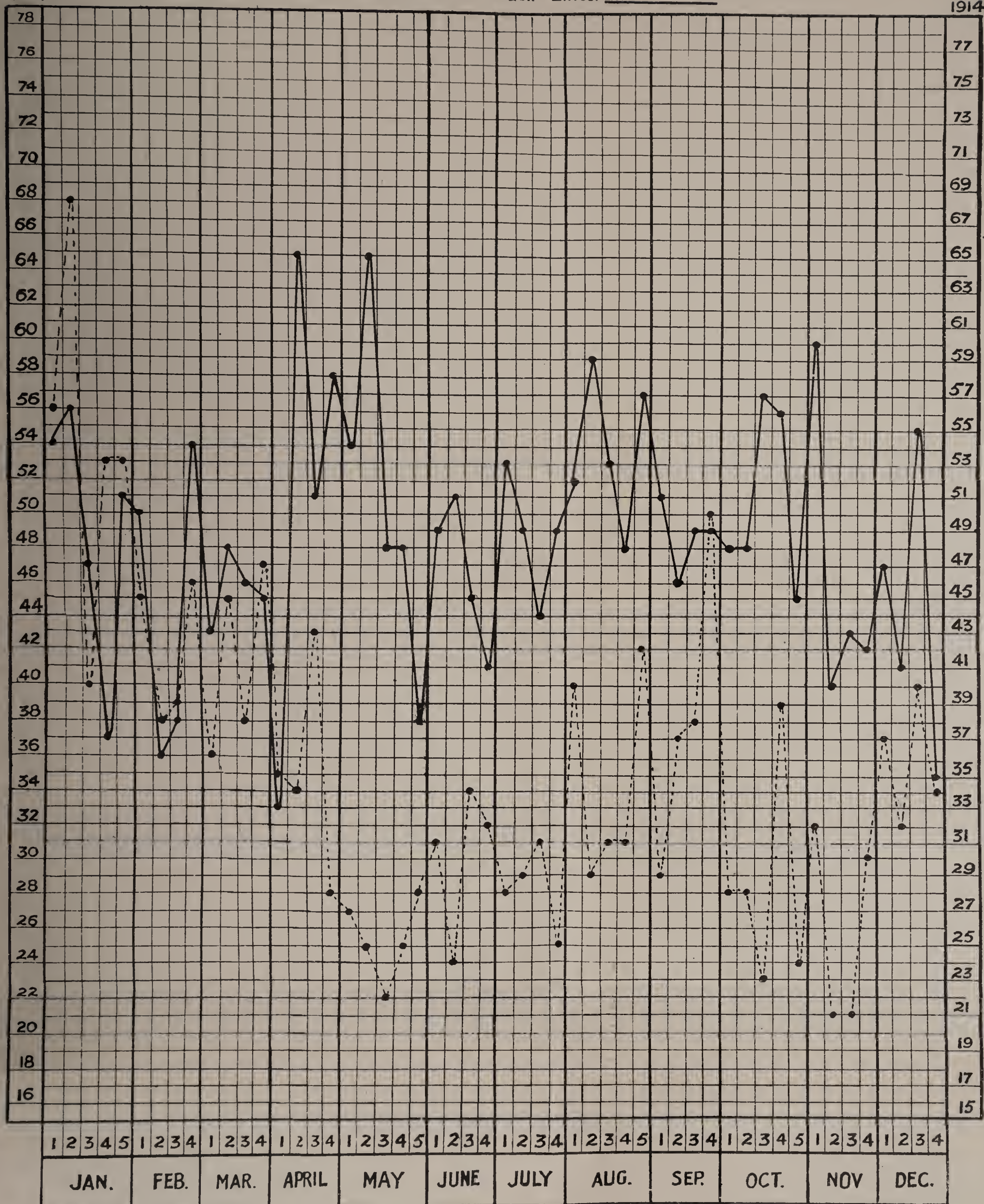
INFANTILE MORTALITY DURING THE YEAR 1914.

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under one Year.
All Classes.	Certified ...	56	7	8	19	90	36	33	15	23	20	8	17	12	12	7	14	287
	Uncertified ...	3	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	3
Common Infectious Diseases [10]	Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chicken-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	2
	Measles ...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	3
	Scarlet Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Diphtheria: Croup ...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	2
Diarrhoeal Diseases. [65]	Whooping Cough ...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	3
	Diarrhoea, all forms ...	...	...	...	...	...	6	5	3	5	6	3	5	1	1	1	2	38
	Enteritis (not Tuberculous) ...	...	...	...	...	...	1	2	1	3	1	...	...	...	...	...	1	9
	Gastritis, Gastro-intestinal Catarrh ...	...	...	2	1	3	2	6	2	1	1	1	1	...	...	...	1	18
	Premature Birth ...	34	1	1	5	41	1	..	...	...	...	...	...	...	...	...	...	42
Wasting Diseases. [105]	Congenital Defects ...	5	...	...	3	8	1	3	...	1	...	...	...	...	...	...	...	13
	Injury at Birth ...	2	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2
	Want of Breast-Milk ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Atrophy, Debility, Marasmus ...	13	3	2	4	22	11	4	3	2	...	1	...	1	1	...	1	46
	Improper Feeding ...	...	...	...	1	1	...	1	...	...	...	...	...	...	...	...	...	2
Tuberculous Diseases. [15]	Tuberculous Meningitis ...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	2
	Tuberculous Peritonitis } Tabes Mesenterica }	...	...	...	...	...	1	1	...	3	2	1	2	...	...	...	...	10
	Other Tuberculous Diseases }	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	3
	Erysipelas ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Syphilis ...	...	...	...	1	1	3	...	...	...	1	...	...	...	...	...	...	5
Meningitis (not Tuberculous)	Rickets ...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
	Convulsions ...	3	...	1	3	7	1	1	...	...	2	...	...	1	1	...	...	4
	Laryngitis ...	...	...	...	...	...	...	2	...	1	...	...	...	...	1	...	...	13
	Bronchitis ...	...	...	...	...	...	1	1	2	2	...	...	2	5	1	3	2	19
	Pneumonia ...	...	...	...	...	...	1	1	...	...	...	1	...	...	...	...	1	4
Broncho-Pneumonia	Broncho-Pneumonia ...	...	1	1	1	3	3	1	...	1	4	1	4	...	1	1	1	20
	Suffocation, Overlying...	1	1	...	...	2	1	2	3	2	...	...	...	...	...	...	...	10
	Other causes ...	1	1	1	...	3	3	1	...	...	1	...	1	2	2	1	...	14
Totals ...		59	7	8	19	93	36	33	15	23	20	8	17	12	12	7	14	290

Gross recorded number of Deaths from all causes:— Black Dashes.-----

1914 " " " " Births:— Black Lines. _____



The Deaths of Norwich Citizens from *Zymotic* Diseases included :—

	Scarlet Fever.	Diphtheria.	Enteric Fever.	Measles.	Whooping Cough.	Diarrhœal Diseases.	Puerperal Fever.	Erysipelas.	Influenza.
Under 5 years of age...	4	13	1	15	11	72	0	0	2
Over 5 years of age ...	6	20	4	3	0	3	0	7	15

A glance at the above table will show how large a proportion of the deaths occurred in children *under 5 years of age*, and also how great a number of these succumbed to Measles, Whooping Cough, and Diarrhœal Diseases.

The deaths under 1 year of age numbered 290, representing a death-rate of 2·3 per 1000 of the population at all ages.

The Infant Mortality Rate (i.e., the proportion of deaths under 1 year of age to every 1000 births) was ... 114·7
In the 96 great towns it averaged ... 114

This return for Norwich is less favourable as compared with the 96 great towns than was that for last year, when the figures were 112·5 and 116·5 respectively. A special report differentiates the certified causes of death of the infants.

Death-rate from Diarrhœal Diseases up to 2 years of age (inclusive) per 1000 births 21·64, for 95 great towns (average) 26·09.

The Death-rate per 1000 living between the ages of 1 and 65 years was 6·8. In the 96 great towns it was 8·6 per 1000 living.

The Death-rate per 1000 living at and over 65 years of age was 82·3. In the 96 great towns the corresponding rate was 86·1.

There were 31 more female than male children born in the City during the year; 135 of the births were children known to be illegitimate. There were 21 deaths under 1 year of age of *illegitimate* children, or 155 per 1000 *births*—the rate among the *legitimate* children being 112 per 1000 *births*; 51 stillbirths were notified to me during the year.

NORWICH SPECIAL DEATH-RATES FOR 1913.

				Per 1000 of the population at all ages 1914.	In 1913.	In 1912.
From all Tuberculous Diseases	...			1·5	1·4	1·5
„ Tuberculosis of the Lungs						
	(Phthisis)			1·1	1·0	1·0
„ Respiratory Diseases, excluding						
Phthisis	...	...		2·2	2·2	2·1
„ Heart and Circulatory Diseases				2·9	2·7	2·5
„ Scarlet Fever	...	...		·08	·05	·106
„ Diphtheria	...	...		·26	·12	·16
„ Enteric (Typhoid) Fever	...	...		·04	·01	·07
„ Puerperal Fever	...	...		·00	·008	·00
„ Erysipelas	...	...		·05	·02	·40
„ Measles	...	...		·14	·38	·14
„ Whooping Cough	...	...		·09	·35	·03
„ Diarrhœal Diseases	...	...		·60	·70	·26
„ Influenza	...	...		·13	·13	·05
„ Alcoholism	...	...		·12	·10	·11
„ Venereal Diseases	...	...		·06	·03	·06

The following Deaths occurred in *Public Institutions*;—Norfolk and Norwich Hospital, 186; the Union Infirmary, 184; the Isolation Hospital, 36; Jenny Lind Infirmary, 34; the Prison, 0; the Barracks, 0.

Inquest cases amounted to 7·03 per cent. of deaths from all causes.

In the 96 great towns the average was 7·8 per cent.

Deaths in Public Institutions amounted to 24·1 per cent.

In the 96 great towns the average was 28·8 per cent.

Uncertified deaths (i.e., death certificate not signed by a registered medical practitioner) amounted to 0·04 per cent.

Average in 96 great towns, 0·8 per cent.

Only 3 deaths of infants were certified—neither by a medical practitioner nor by the verdict of a Coroner's jury. The deaths occurred within the first week of life; assigned causes were "Lack of Vitality."

It is not creditable to the State, as the Guardian and Conservator of the prospective interests of the race, to lose a single subject without being furnished with a certificate of the cause of death, properly attested. The law now allows a Registrar, almost always a layman, to accept a certificate from an unqualified person, provided that he, the Registrar, is persuaded that deception is not being practised. The proper course is, without doubt, to hold an inquiry in every such case, and, where needful, a post-mortem examination. These steps will probably be taken only when the registration of the cause of death is placed under the control of the Sanitary Authority.

I caused enquiries to be made in 283 special cases whether the *child dying under 1 year of age was insured*, and found that 38·16 per cent. of these children were insured.

There were 21 inquests held upon children under 1 year of age by the Coroner or his Deputy, 3 of these children being illegitimate. Assigned causes were 10 to Accidental Suffocation, 3 to Bronchitis, 2 to Broncho-Pneumonia, 2 to Diarrhœa, 1 to Debility, 1 to Drowning, 1 to Measles, and 1 to Tubercular Pneumonia.

Of the 21 deaths of illegitimate infants, 6 were certified to be due to Diarrhœal Diseases, 3 to Marasmus, 2 to Debility, 2 to

Lack of Vitality, 1 to Atrophy, 1 to Convulsions, 1 to Suffocation, 1 to Meningitis, 1 to Chicken Pox, 1 to Influenza, and 1 to Bronchial Pneumonia.

ISOLATION HOSPITAL.

The Hospital contains 88 beds, allowing 2000 cubic feet of air space per bed, and, in emergency, provides accommodation for 120 beds and cots.

The total number of admissions to the Hospital for the year 1914 was 955, as compared with 658, 629, 858, and 825 for the preceding four years.

71 patients remained in Hospital on December 31st, 1913, thus giving a total number of 1026 under treatment during the course of the year.

The 955 cases admitted were suffering from the following diseases:—

Scarlet Fever	...	...	553
Diphtheria	...	...	337
Enteric	...	...	9
Coexistent Diseases	...	...	7
Other Diseases	...	...	49
Total	...	...	<hr/>955

The total number of deaths was 36 (giving a general death rate of 3·5 per cent., as in the previous year). The deaths were distributed as follows:—

Scarlet Fever	...	...	9
Diphtheria	...	...	24
Enteric	...	...	1
Other Diseases	...	...	2
Total	...	...	<hr/>36

The average daily number of patients in Hospital was 85 (maximum 141, minimum 51). Average length of stay (all diseases) was 32·75 days (in 1913 the average length of stay was 31·3 days).

On December 31st, 1914, there were 110 patients remaining in Hospital, viz. :—

Scarlet Fever	...	...	...	68
Diphtheria	...	...	...	41
Coexistant Disease	...	...	...	1
Total	...	...	...	<u>110</u>

TABLE I.

	1912.	1913.	1914.
Total Admissions	... 629	658	955
Death Rate	... 4·8 per cent.	3·5 per cent.	3·6 per cent.
Scarlet Fever	... 306	254	553
Death Rate	... 3·2 per cent.	2·2 per cent.	1·6 per cent.
Average Stay	... 39·5 days	36·8 days	35·1 days
Return Cases	... 2·3	1·2	·58
Diphtheria	... 216	329	337
Death Rate	... 6·95 per cent.	4·4 per cent.	7·1 per cent.
Average Stay	... 28·1 days	26·7 days	30·6 days

Table I. shows the total admissions for the past three years, together with those for Scarlet Fever and Diphtheria for the same period. It also gives the death rates for these diseases (calculated on the admissions during the year and not on the total number under treatment) and the average length of stay in Hospital, and in the case of Scarlet Fever the percentage of return cases.

As regards Scarlet Fever, there are increasing grounds for belief that desquamation, as a sign of continued infectivity, is not of the value that it was formerly considered, and in "clean" cases there appears to be no object in detaining patients for a period of more than five weeks. This procedure was carried out as in previous years, the average stay being 35·1 days, and although a large number of patients have been discharged regardless of completion of desquamation, there has been no "return case" traceable to these patients. The practical importance of this is two-fold,

viz. (a) reduction of expenditure on patients in Hospital, and (b) reduction in the period of absence from school.

The marked increase in the death rate of Diphtheria is to be deprecated, and an analysis of the deaths shows that the prognosis is graver the longer the case continues without coming under serum treatment; in some cases six days have elapsed before serum treatment has begun, and it is these cases which give the high mortality.

Early recognition of the disease combined with serum treatment renders the prognosis most favourable.

In this Hospital the rule has been in force that no patient should be discharged until three consecutive negative swabs have been obtained.

TABLE II. (showing Disease Distribution and Mortality.
All Diseases).

	Remaining in Hospital, December 31st, 1913.	Admitted 1914.	Total.	Discharged, 1914.	Died 1914.	Mortality Rate.	Remaining in Hospital, December 31st, 1914.
Scarlet Fever	38	553	591	514	9	1.5	68
Diphtheria ...	28	337	365	299	24	6.57	41
Enteric ...	1	9	10	9	1	10.0	0
Coexistent Diseases	1	7	8	7	1	12.5	1
Other Diseases	3	49	52	51	1	1.9	0
	71	955	1026	880	36	3.5	110

TABLE III. (showing Monthly Admissions).

	Scarlet Fever.	Diphtheria.	Enteric.	Coexistent Diseases.	Other Diseases.	Total.
January ...	38	22	—	—	3	63
February ...	30	25	—	—	7	62
March ...	36	30	1	1	10	78
April ...	36	25	1	—	4	66
May ..	27	19	3	2	4	55
June ...	40	16	1	—	4	61
July ...	51	18	—	1	10	80
August ...	54	26	3	1	2	86
September	57	29	—	1	1	88
October ...	73	41	—	—	—	114
November ...	61	49	—	1	2	113
December ...	50	37	—	—	2	89
Total ...	553	337	9	7	49	955

Scarlet Fever.

553 cases of Scarlet Fever were admitted during the year, which, with 38 remaining in Hospital on December 31st, 1913, gives a total of 591 under treatment.

68 cases remained in Hospital on December 31st, 1914.

9 deaths occurred, giving a mortality of 1·6 per cent., compared to 2·2 in the previous 12 months.

The youngest patient admitted was aged 1 month, the oldest 39 years.

The average stay in Hospital was 35·1 days, compared with 36·8 days in 1913.

Complications.

Rhinorrhœa ...	...	...	65 cases.
Otorrhœa ...	{ Right	...	12 „
	{ Left	...	12 „
	{ Double		11 „
Albuminuria	...	...	31 „
Hæmaturia ...	...	...	1 „
Adenitis ...	...	...	46 „
do. (with Abscess)		...	5 „
Rheumatism	...	...	5 „
Septic Fingers and Toes		...	13 „
Serum Rash	...	...	5 „
Morbilli ...	...	...	4 „
Sinus Thrombosis	...	...	2 „
Mastoid Disease	...	...	1 „
Herpes ...	...	...	1 „
Pneumonia ...	...	...	1 „
Broncho Pneumonia	...	...	1 „
Delirium ...	...	...	2 „
Endocarditis	{ Mitral	...	5 „
	{ Aortic	...	1 „
Chicken Pox	...	...	3 „
Angina ...	...	...	1 „

TABLE IV. (age and sex distribution).

<i>Scarlet Fever.</i>												
	Male.	Female.	Under.								25 and	Total.
			1.	1-2.	2-3.	3-4.	4-5.	5-10.	10-15.	15-25.	Over.	
<i>Admissions</i>	238	315	4	13	29	25	52	218	130	62	20	553
<i>Deaths</i> ...	4	5	—	1	1	1	5	—	—	1	—	9

Diphtheria.

337 patients suffering from this disease were admitted, which with 28 cases remaining from last year, makes 365 under treatment. The deaths numbered 24, giving a percentage mortality of 6·57, compared with 4·4 last year.

41 cases remained in Hospital on December 31st, 1914.

The youngest patient admitted was $1\frac{4}{12}$ years; the oldest 68 years. The average stay in Hospital was 30·6 days, as compared with 26·7 days last year.

Complications.

Rhinorrhoea	...	...	...	14
Otorrhœa	...	...	...	1
Albuminuria	...	...	...	24
Hæmaturia	...	...	...	1
„ with suppression	...	...	...	1
Adenitis (1 with abscess)	...	...	...	10
Paralysis	{ Palatal ...		...	15
	{ Ocular ...		...	6
	{ Facial ...		...	1
	{ Diaphragmatic		...	1
	{ General		...	2
A. T. Rash	...	...	...	26
Mastoid	...	...	...	1
Morbilli	...	...	...	1
Conjunctivitis	...	...	...	2
Herpes Labialis	...	...	...	1
Impetigo Contagiosa	...	...	...	1
Scabies ...	...	...	...	1
Tracheotomy	...	(with 2 deaths)		3

TABLE IV. (age and sex distribution).

Diphtheria.

	Male.	Female.	Under 1.	1-2.	2-3.	3-4.	4-5.	5-10.	10-15.	15-25.	25 and over.	Total.
<i>Admissions</i>	151	186	—	10	19	30	47	120	54	38	19	337
<i>Deaths</i>	9	15	—	2	2	3	7	10	—	—	—	24

Enteric Fever.

9 cases of Enteric were admitted, which, with 1 left over from the previous year, gave 10 cases under treatment during the year 1914. 1 death occurred, giving a mortality rate of 10 per cent.

The average time in Hospital was 43 days, as compared with 31 days last year.

6 of the patients were males and 4 females. 5 of the patients were under 20, the youngest being 11 years. The oldest patient was 39 years.

“Return Cases.”

Scarlet Fever “return cases” this year number 3, giving a percentage of .58. The return cases occurred respectively on the 58th, 15th, and 28th day after the discharge of the first member of the family.

Two cases were re-admitted with secondary attacks—the one 10 days after first dismissal and the other 14 days after discharge.

Double Infection.

Six cases were admitted in which the patient was suffering simultaneously from 2 infectious diseases on arrival, 1 in which the second exanthem was incubating at the time of admission. In 5 of these the combination was Diphtheria and Scarlet Fever, in the other Scarlet Fever and Measles.

Other Diseases.

The cases under this heading numbered 49, and were as follows:—

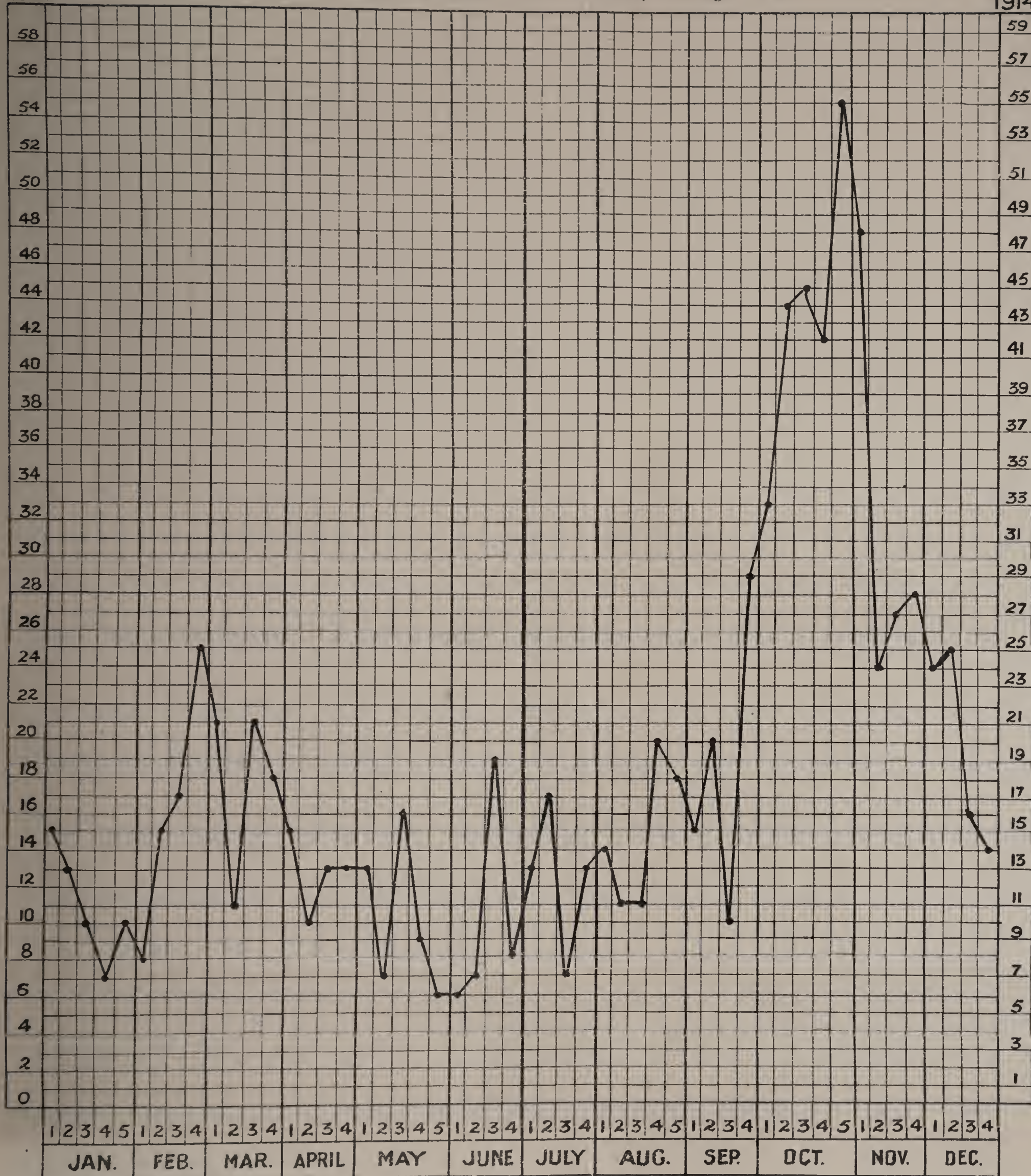
Tonsillitis	...	...	...	23 cases
Tonsillar Abscess	...	...	...	1 case
Suppurative Mastoiditis	...	...	...	1 „
Sloughs after tonsillectomy	...	...	...	1 „
Morbilli	...	...	...	3 cases
Rubeola	...	...	...	4 „
Chicken Pox	...	...	...	1 case
Gastritis	...	...	...	1 „
Rheumatism	...	...	...	1 „
Enema Rash	...	...	...	1 „
Pityriasis Rosea	...	...	...	1 „
Food Poisoning	...	...	...	1 „
General Tuberculosis	...	...	...	1 „
Phthisis	...	...	...	1 „

Notifications of Scarlet Fever.

Total number of cases 956. Weekly average 18.4.

1914

1914



Starvation	...	...	...	1 case
Psoriasis	...	...	...	1 „
Eczema	...	...	...	1 „
Erysipelas	...	...	...	1 „
Nil	...	...	...	4 cases
				49

Sick Staff.

In addition to a number of minor ailments which have entailed varying periods of absence, 2 nurses and 1 wardmaid contracted Scarlet Fever, 1 nurse Diphtheria, 1 nurse Morbilli, 1 nurse developed Phthisis, and 1 nurse suffered from Rheumatism, 1 wardmaid from Erysipelas, and the house-boy from Tonsillitis.

Bacteriology.

There was an increase of 242 bacteriological examinations in the course of the year, the total number being 2,183.

As in previous years the majority of these were for Diphtheria, but included 13 examinations of blood for suspected cases of Typhoid, and 33 specimens of sputum for the bacillus of Tuberculosis.

INFECTIOUS DISEASES.

Scarlet Fever.—956 notifications of Scarlet Fever in 841 dwellings were sent to me during the year. There were 115 secondary infections, *i.e.*, second or third cases in the same dwelling. The Chart gives a graphic representation of the prevalence, week by week, of the disease. I regard the occurrence of Scarlet Fever in a proportion over one case to every ten thousand of the population a week, or, roughly, 12 cases a week, as constituting an “epidemic” condition of the disease. There were 10 deaths.

Of the cases notified to me 45·39 per cent. occurred in males and 54·61 per cent. in females; 14·44 per cent. of the patients were *under 5 years of age*, 41·33 per cent. *between 5 and 10 years of age*,

26·88 per cent. *between 10 and 15 years of age*, 12·94 per cent. *between 15 and 25 years of age*, and 4·41 *were over 25 years of age* (55·77 per cent. *of the cases occurred in children under 10 years of age.*)

From enquiries conducted specially I found that of the infected dwellings 3·53 per cent. possessed only *one sleeping room*, the average number of the occupants being 3·8 persons; 20·61 per cent. possessed *two sleeping rooms*, the average number of the occupants being 2·5 persons *per room*; 60·61 per cent. possessed *three bedrooms*, the average number of the occupants being 1·8 persons *per room*: and 15·25 per cent. possessed *four or more bedrooms*, the average number of occupants being 1·3 persons *per room*.

As regards the disposal of excrement, 2·04 per cent. of the infected dwellings used "bins," 4·44 per cent. "pail" closets, and 92·52 per cent. water-closets.

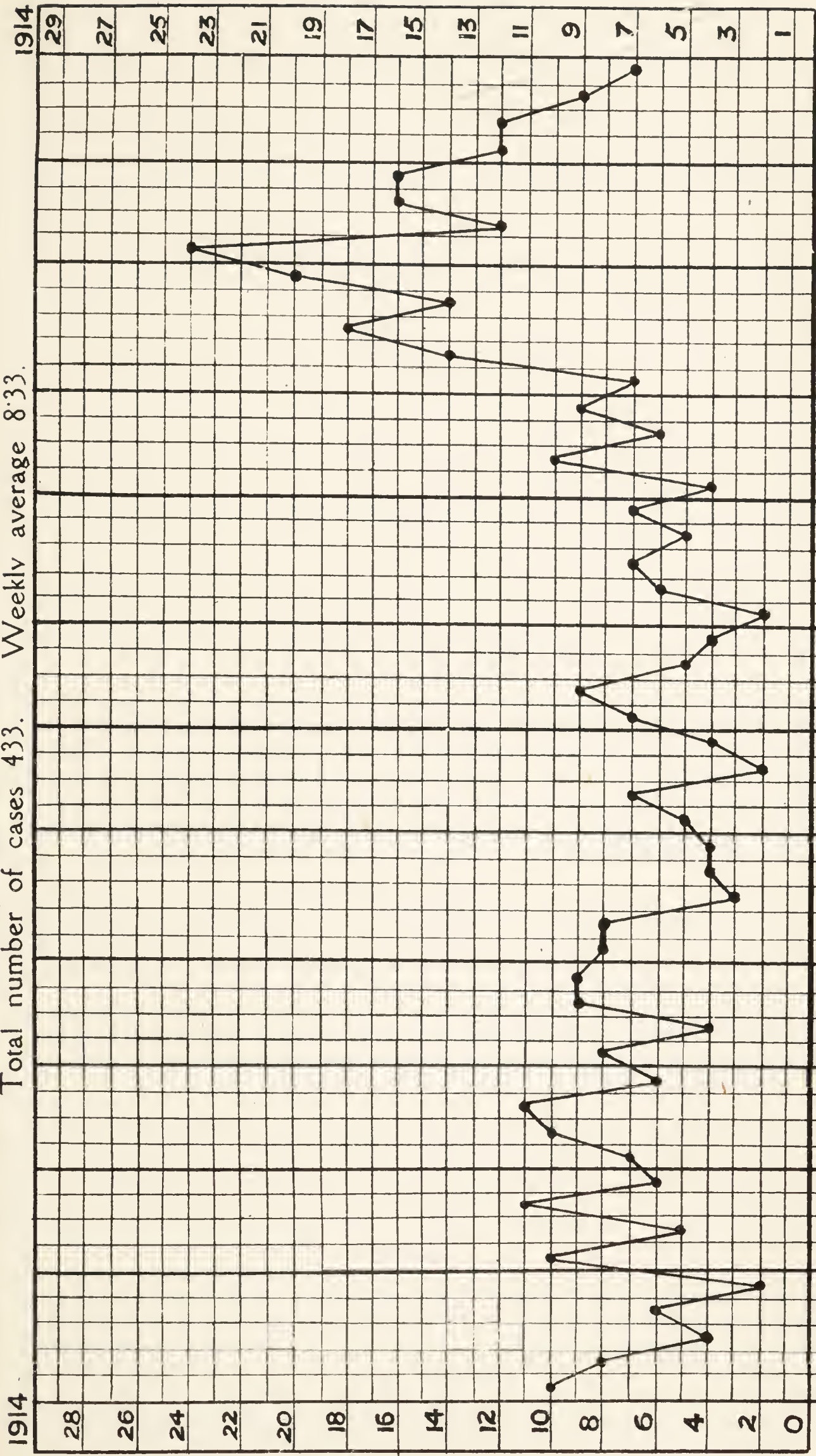
I was able to trace some score of cases of Scarlet Fever to a special milk supply, and found in the house an undetected case of the disease. As to the origin of this disease, we are in greater doubt than is the case with other zymotic ailments, and so long as this uncertainty continues our operations for preventing these conditions from arising which favour its development will be *pari-passu* imperfect, and our practical work confined rather to dealing with effects than causes. I am inclined to think that *all the excretions of an affected person are infectious for a time, as well as the breath.*

Diphtheria.—433 notifications were sent in during the year. There were 33 deaths recorded during the year, 4 of the fatal endings occurred in the Norfolk and Norwich Hospital, and 24 in the Isolation Hospital. The special death-rate being 1 in 13 persons attacked. In 1913 it was 1 in 25.

The cases notified to me occurred in 370 dwellings—there being 50 *instances of secondary infection*, that is more than one case

Notifications of Diphtheria.

Total number of cases 433. Weekly average 8.33.



occurring in the same dwelling, or 1 to every 9 primary cases; 13 cases were notified from institutions. Of the persons attacked, 46.1 per cent. were males and 53.9 per cent females.

20.33 per cent. of the patients were under 5 years of age, 41.59 per cent. between 5 and 10 years, 18.22 per cent. between 10 and 15 years, 13.79 per cent. between 15 and 25 years, 6.07 per cent. over 25 years of age (61.92 per cent. *were in persons under 10 years of age*).

Systematic enquiries into the home surroundings of the patients entitle me to state that 6.25 per cent. of the infected dwellings possessed *only one sleeping room*, the number of the occupants averaging 4.4; 31.25 per cent. of the houses possessed *two sleeping rooms*, the average number of occupants (of each room) being 2.6; 51.9 per cent. of the houses had *three bedrooms*, the average number of occupants being 1.9; and 10.6 per cent. of the dwellings possessed *four or more bedrooms*, with an average population of 1.3 persons per bedroom. 2.97 per cent. of the affected households made use of "*bins*," 5.41 used *pail-closets*, and 91.62 per cent. *water-closets*. In 6.04 per cent. of the houses there were evidences of dampness of the walls or flooring, and due commonly to the *absence of a "damp course"* in the former, and of a layer of concrete below the latter. I caused special enquiries to be made concerning the character of the paving, etc., of the yards adjacent to the infected dwellings, and found that 84.39 per cent, had yards covered with some *material impervious to fluids*: that 4.93 per cent. had yards partly paved, 3.56 per cent. cobbled yards, and 6.85 per cent. yards *without any paving at all*. In other words 15.34 per cent. of the houses *adjoined yards offering greater or less facilities for the soakage of fluid into the soil about them*. 24.93 per cent. of the houses possessed no sinks, which means that *all household "slops," etc.*, and other waste fluids would be pitched into and about the gutter in the yard.

The Chart exhibits the variation in the prevalence of Diphtheria week by week throughout the year. I retain my

belief that any condition of the atmosphere, or of the surroundings, which tends to produce a congested condition of the tissues lining the throat—such as damp, foggy weather, particularly when associated with low barometric pressure which leads to engorgement and relative congestion of the superficial vessels; or any irritating influence—such as the noxious effluvia constantly given off by the contents of “bins,” “pail-closets,” sewer air, fish and other refuse, etc.,—distinctly favours the development of Diphtheria.

Enteric (Typhoid) Fever.—36 cases were notified as Enteric Fever during the year, but 5 of the cases notified, provided on bacteriological examination, to be either paratyphoids or mistakes in diagnosis. As the relative prevalence of this disease has been commonly accepted criterion of the sanitary condition of a district, its associations and surroundings become of special interest; and the importance of the subject justifies a more detailed account than is requisite in dealing with other diseases; the more particularly as Enteric Fever has been rather *endemic* than epidemic in its character with us. The association of shell-fish with this disease locally is always to be remembered.

The following table gives the notifications of Enteric Fever in each year from 1880 to 1914 inclusive, and the mortality from the disease. There were 5 deaths registered in 1914, 3 of these in a Public Institution.

180	{ notifications of Enteric F. in }	1880 with 37	{ deaths representing a mortality rate of }	20.5 %
50	„	1881 „ 15	„ „	30.0 „
47	„	1882 „ 8	„ „	17.4 „
34	„	1883 „ 11	„ „	32.3 „
121	„	1884 „ 30	„ „	24.8 „
584	„	1885 „ 92	„ „	15.5 „
262	„	1886 „ 39	„ „	14.5 „
136	„	1887 „ 20	„ „	14.7 „
171	„	1888 „ 19	„ „	11.1 „
166	„	1889 „ 22	„ „	13.2 „
176	„	1890 „ 31	„ „	7.6 „
163	„	1891 „ 21	„ „	12.8 „

106	{ notifications of Enteric F. in }	1892 with 19	{ deaths representing a mortality rate of }	17·9%
314	„	1893 „ 36	„ „	11·4 „
150	„	1894 „ 22	„ „	14·6 „
226	„	1895 „ 24	„ „	10·6 „
196	„	1896 „ 20	„ „	10·2 „
234	„	1897 „ 33	„ „	14·0 „
259	„	1898 „ 48	„ „	18·5 „
144	„	1899 „ 20	„ „	14·0 „
193	„	1900 „ 12	„ „	7·4 „
127	„	1901 „ 15	„ „	11·8 „
57	„	1902 „ 5	„ „	8·7 „
92	„	1903 „ 5	„ „	5·4 „
111	„	1904 „ 15	„ „	13·5 „
53	„	1905 „ 9	„ „	17·0 „
89	„	1906 „ 11	„ „	12·3 „
87	„	1907 „ 14	„ „	16·0 „
216	„	1908 „ 36	„ „	16·6 „
45	„	1909 „ 5	„ „	11·0 „
36	„	1910 „ 3	„ „	8·3 „
54 (44 cases)		1911 „ 8	„ „	16·0 „
48 (42 „)		1912 „ 9	„ „	21·0 „
30 (19 „)		1913 „ 2	„ „	10·5 „
36 (31 „)		1914 „ 5	„ „	13·8 „

It will be noticed that the death-rate in 1880 from this disease averaged 20·5 per cent. of the cases notified, or, roughly, 1 case in every 5, and that last year the death-rate was 13·8 per cent. As I pointed out in previous reports, it does not follow necessarily that these figures represent the true state of the facts; it must be remembered that most probably a number of the milder cases of the disease were not recognised and notified in 1880. Increasing skill in diagnosing the disease in its lighter form has, in my judgment, led to a more accurate correspondence between the number of notifications sent in and the actual amount of the disease; although I still think that a number of cases of Enteric Fever of what is known as the “Ambulatory” type escape notification, and never receive medical treatment. So that here, as elsewhere, the notifications furnish a reliable guide to the relative prevalence of the disease, but must not be regarded as representing accurately the full amount. By “Ambulatory” Typhoid is meant so mild an attack that the patient keeps walking

about, pursuing his or her ordinary vocation in life, never ill enough to need a doctor, having some feeling of malaise and what is thought to be some transient diarrhœa.

Differentiating some characteristics of the cases notified in 1914 and comparing them with those notified in 1913, 1912, 1911, I find that as regards

(a) *Sex.* 56·76 per cent. of the cases occurred in males and 43·24 per cent. in females; the average percentages of the preceding three years were 46·62 males and 50·01 per cent. females.

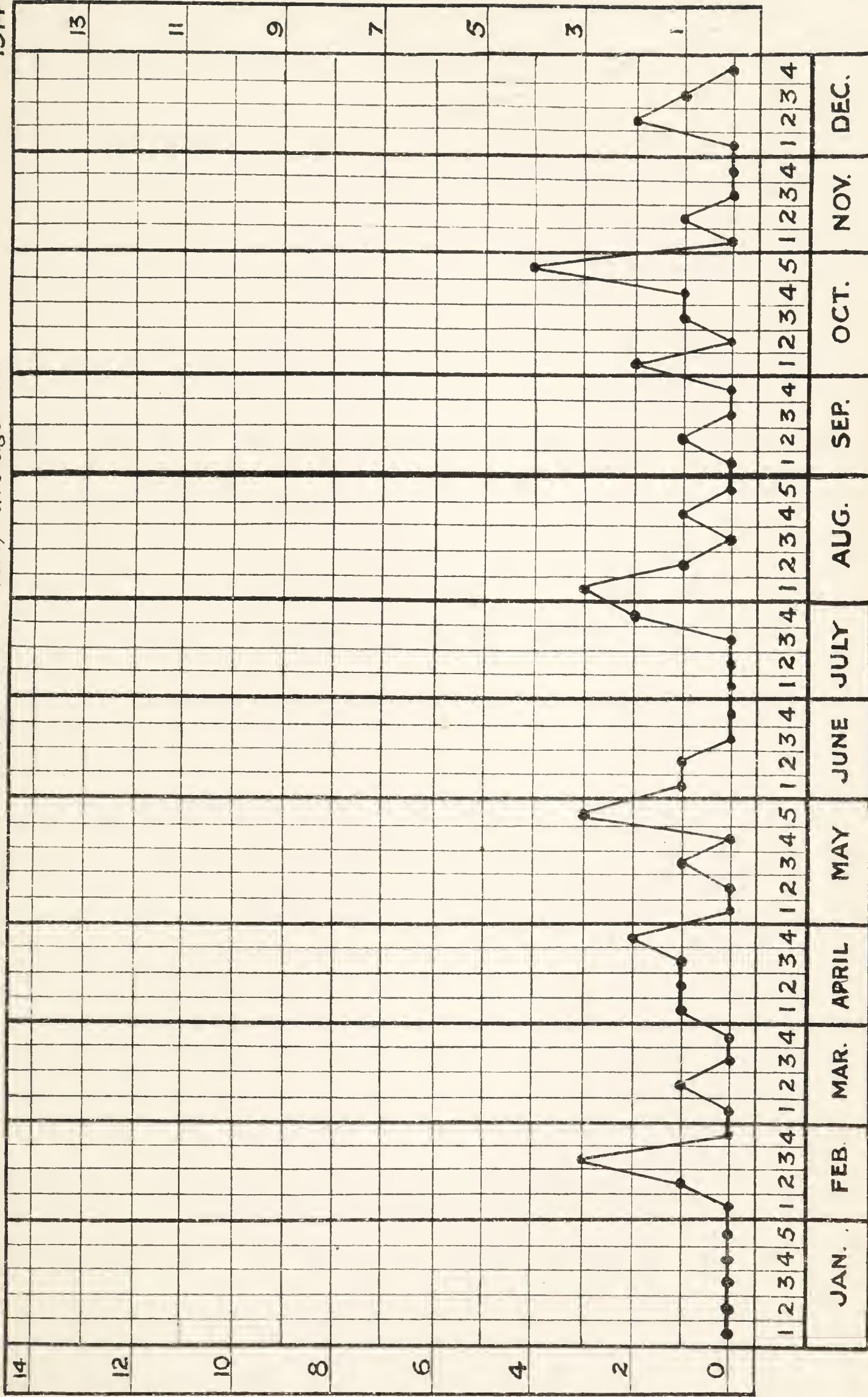
(b) <i>Age.</i>				Average percentage of the preceding three years.
2·7	{ per cent. of the patients were under 5 years of age }			10·93
8·11	„	„	between 5 and 10	12·08
16·22	„	„	„ 10 „ 15	11·36
13·51	„	„	„ 15 „ 20	11·95
13·51	„	„	„ 20 „ 25	15·56
10·81	„	„	„ 25 „ 35	19·78
18·92	„	„	„ 35 „ 45	12·47
16·22	„	„	over 45	5·88

It will be noticed that nearly 27·03 per cent. of the cases occurred in children under 15 years of age, and that the average number of such cases in the preceding three years was 35·5 per cent. of the total number.

(c). <i>Crowding.</i>				Average number of occupants per bedroom.
0·00	{ per cent. of the affected dwellings had only 1 bedroom }			0·0 persons
32·26	„	„	„ 2 bedrooms	2·5 „
61·29	„	„	„ 3 „	1·6 „
6·45	„	„	„ 4 or more	1·6 „

The average corresponding percentage of the preceding three years were—1 bedroom, 4·5 per cent.; 2 bedrooms, 29·4 per cent.; 3 bedrooms, 45·1 per cent.; 4 or more bedrooms, 20·9 per cent.;

1914



the relative crowding being 2·7, 2·7, 1·8, and 1·3 persons *per room*. In estimating the influence of "man-crowding," I have only concerned myself about the number of sleeping-rooms, *the rooms in which crowding becomes important*. The census returns are helpful here only in respect of tenements consisting of one room, which room must, of necessity, be used for bed and living-room; and when it is remembered how large a proportion of these are occupied by one old man or woman living alone, the incidence of the disease in houses containing one bedroom probably is much heavier than the figures represent.

(d) *Water Supply.*

93·75 per cent. of the affected dwellings were supplied with the Company's water.

6·25 per cent. of the affected dwellings were supplied from pumps.

Of the preceding three years all were supplied with the Company's water.

The proportions in which houses are supplied with "pipe" or with well water are altering quietly but *continuously*; each year sees an increase in the number of houses supplied by the Company, and a decrease in the number of those drawing water from wells. I believe that at the present time over 99·0 per cent. of the houses are supplied by the Company with water. The recurrence of Typhoid makes it necessary for us to take every possible precaution with regard to water. The Water Company expends great care upon the filtration and storage of the water it supplies to the citizens, and has it chemically and bacteriologically examined at regular intervals, and short of the demonstration by bacteriological experts of the specific bacillus of Enteric Fever being distributed by the Company with the water it abstracts from the Wensum, I see no sufficient reason for dissenting from the opinion expressed by the Official Analysts that it is "a perfectly safe water for dietetic use."

(e) *Milk supply.*Corresponding (averaged)
proportions in the pre-
ceding three years.

3·12 per cent. of the patients drank no milk	4·3
3·12 per cent. of the patients drank it in the raw, <i>uncooked</i> condition	7·1
87·51 per cent. of the patients drank it only, when first boiled or cooked in puddings or in hot tea, etc.	83·1
6·25 per cent. of the patients used con- densed milk	4·4

Milk, I think, had, as in preceding years, little to do with propagating Enteric Fever amongst us; its influence, anyway, must have been limited, for practically it is likely only to be a direct source of infection in 3·12 per cent. of the cases among the drinkers of the *uncooked* article. At the same time I am bound to say that, but for the fairly general cooking of the milk consumed among us, we are practically at the mercy of the surrounding districts; so large a portion of our supply comes from outside the City.

(f) *Shell-fish.*

The marked association of this article of diet with Enteric Fever in 1908 makes it interesting to record that in 1914, 34·37 per cent. of the cases admitted having consumed shell-fish prior to the attack.

(g) *Disposal of excrement.*

12·5 per cent. of the affected dwellings used "bins."

3·12 " " " pail closets.

84·38 " " " water closets.

In the preceding three years the corresponding (averaged) percentages were 6·0 per cent. "bins"; 5·9 pail closets; 88·0 water closets. The change to the water carriage system progresses steadily. Last year 617 water closets were substituted for other types of closet. At the present time I estimate the

number of houses provided with water closets at 95·5, those with pail closets at 3·1, and those with bins at 1·4 per cent. of the total number.

(h) *Household Drainage.*

At 70·97 per cent. of the affected houses the Inspectors reported the drainage as “good.” In the preceding three years the corresponding (averaged) percentage was 84·0, which means that in the others some defect in the drainage such as no sink (which again means that all slop and other waste water would be pitched about the yard), sink waste-pipe not disconnected, or loose and defective “traps,” etc., existed.

(i) *Character of Yard.*

Average of the
preceding
three years.

6·26 per cent. of the affected dwellings had					
no yard	...	...	...	...	0·0
71·87 per cent. of the dwellings had paved					
yards	...	...	...	...	75·4
9·37 per cent. of the dwellings had <i>unpaved</i>					
<i>yards</i>	...	...	...	...	11·4
9·37 per cent. of the dwellings had partly					
<i>paved yards</i>	...	...	...	...	8·8
3·13 per cent. of the dwellings had <i>cobbled</i>					
<i>yards</i>	...	...	...	...	4·4

In other words, 21·9 per cent. of the dwellings had yards more or less liable to have the *subsoil soddened with moisture and impurities*. I have drawn attention repeatedly to the importance of having the soil which adjoins a dwelling covered with some material *impervious to fluids*, else it cannot be kept dry. A number of the poorer dwellings in this City have no properly constructed “damp course” in the walls, and, in addition, have not had a thick layer of concrete laid under the bottom floors; in such cases moistening of the subsoil must lead to dampness in the dwelling, to say nothing of the deleterious ground air which will be forced

upwards by the rising of the ground-water from time to time ; and always be more or less sucked into the dwelling, owing to its atmosphere being warmer.

- (j) *Food store.* 6·24 per cent. of the affected dwellings had food stored *in a ventilated receptacle* ; and 3·13 per cent. of the dwellings had *the household food stored in an unventilated receptacle* (i.e., having no communication with the external air) in some part of the house, other than the living-room ; and in as many as 87·5 per cent. of the dwellings the food was stored in *some unventilated receptacle in the actual living-room*. In the preceding three years the food store was some unventilated receptacle *in the actual living-room* in 78·3 per cent. of the affected dwellings.

It is worthy of notice that in 87·5 per cent. of the affected dwellings the food was stored in the living-room, and therefore in *an atmosphere more or less stale and impure*. Without assuming a direct connection between such food and a disease like Typhoid, it will be obvious that articles of food, such as milk, butter, bread, etc., kept in such surroundings become contaminated easily with impurities.

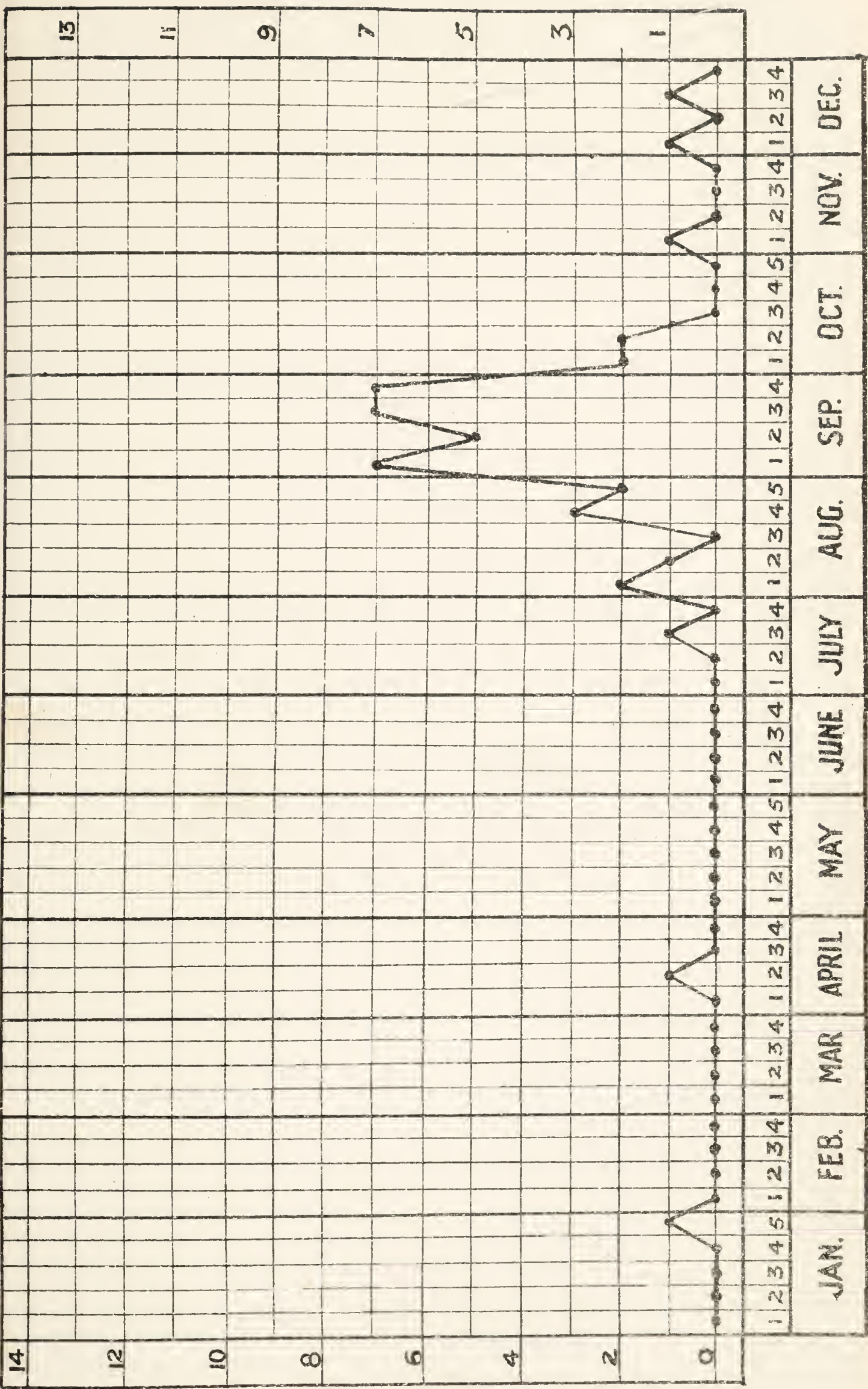
(k) <i>Nearness to sewer gratings and gullies.</i>				Average of three preceding years.
77·42 per cent. of the affected dwellings were				
within 20 yards	...	...	...	62·6
9·68 per cent. of the affected dwellings were				
within 40 yards	...	...	...	19·5

The remainder were over 40 yards. These measurements were taken because a stench from a grating or gully has been charged with occasioning Typhoid, so constantly, by people living near ; my own belief is *that pollution of the neighbouring atmosphere with sewer air lowers the resisting powers of the body*, and thus causes those exposed to so deleterious an influence to fall more easily a victim to disease ; emanations from collections of excrement in “bins” and pail-closets, and from heaps of decaying refuse, act in the like manner as powerful predisposers.

Deaths from Diarrhoea

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(l) Employment, &c.

Boot and Shoe Work, 8; Boots (Hotel), 1; Carter, 1; Children, 9; Clerks, 2; Cycle Manufacturer, 1; Dressmakers, 2; Drover, 1; Draughtsman, 1; Dairyman, 1; Engineer, 1; General Dealer, 1; Housewives, 5; Nurses, 2.

Puerperal Fever.—4 notifications of this dangerous child-bed fever were sent in during the year, and there were no deaths. Puerperal Fever being a preventible disease, we were entitled to look for a diminution in the occurrence of it. I forbid the nurse or midwife in attendance upon any notified case to go to another confinement for a period, and then only after a thorough cleansing and disinfection of her clothing and person, and, as far as possible, dwelling. The Medical Practitioners in the City I have found anxious to adopt all reasonable precautions, the chief being a temporary abstention from obstetric practice. Rigorous antiseptic precautions in obstetric practice furnish the best means of preventing the development of the disease, and as our midwives have now to be registered and are trained more scientifically, we may look justifiably for a steady lessening of Puerperal Fever; more particularly as parturient women themselves come to understand the vital importance of scrupulous cleanliness being observed by themselves, their attendants, and in all the surroundings. The Midwives' Act enables us to maintain a more vigorous control over this disease, as in 1910, certain additional provisions came into force.

Erysipelas.—91 cases were notified to me. Seven deaths were registered from it. In 1913 the figures were 66 and 3 respectively. Erysipelas of a fatal type cannot be regarded as having been prevalent in the City.

Measles.—Measles was not notified during the year, but 18 deaths were attributed to it. This dangerous disease, particularly on account of its liability to set up lung complications, and, on

account of its lengthy incubative period and infectivity, is a source of administrative trouble to all concerned with the control and management of schools, especially infant schools. Notification would aid us to bring about an alteration in the attitude of mind assumed by many of the mothers of families in Norwich towards this highly dangerous infective disease, and the criminality of carelessness in dealing with it. In 1913, 47, and 1912, 18 deaths were registered as being due to this disease.

Whooping Cough proved fatal to 11 children last year. This result for 1914 is more satisfactory than that for the preceding year when 44 deaths from the disease were registered. This disease is highly infectious, and dangerous too. I gain information of its prevalence among children attending the schools only by indirect methods, and of its fatality from the death certificates.

Diarrhœa carried off 44 persons, 38 of whom were *under 1 year of age*, the greater number succumbing (as is customary) in the third quarter of the year. In 1913 there were 45 deaths. I attribute the prevalence of and mortality from this disease to *bad feeding, and particularly to carelessness in the treatment and storage of milk and other food, to flies, and to soil and air pollution, due to the retention of filth upon the premises.*

Influenza.—17 deaths were certified to be either directly or indirectly due to this disease; in 1913 the number of deaths ascribed to it was the same.

Anthrax.—Two cases were notified last year from an institution; they were contracted outside the city.

Cancer.—161 deaths were attributed to malignant growths during the year; in 1913 the number was 155; in 1912 it was 152.

Septic Diseases. (other than those specified) caused the deaths of 54 persons; in 1913, 73; in 1912, 54.

THE TUBERCULOUS DISEASES.

(Forms of the diseases called commonly "Consumption.") There were 200 notifications of Pulmonary and 47 of other Tubercular diseases. 144 deaths were certified to be due to tuberculous disease of the Lungs (Phthisis) and 48 to other forms of tuberculous infection; making in all a total of 192 *deaths from the tuberculous diseases*. This is below the average for the preceding twenty years, which average amounts to 208 *deaths from tuberculous diseases per annum*. Nothing but benefit to the healthiness of our community can result from the general apprehension of the fact that the tuberculous diseases are dangerous—the phthisical type particularly. I feel that I have done well in insisting, as for many years I have done, upon the dangers to the community of these *catchable and largely preventible diseases*. The chart shows the weekly fluctuations in the tuberculous death-rate throughout the year; and it will be worth the reader's while to compare this chart with the charts of the twenty preceding years. The returns for the twenty years confirm the fact that the *tubercle bacillus* (the micro-organism of whose pernicious activity, these diseases furnish us with reliable information) is no stranger among us. It flourishes practically wherever people are crowded together, and may be said to be entrenched in all old cities. This lethal bacillus, which has cost, and is still costing us, as a nation, directly or indirectly, millions of money, and goes on reaping its untimely harvest of lives year after year, is most at home in dark, ill-ventilated places, and is much favoured by overcrowding in any dwellings. *Sunlight and fresh air, fortunately are destructive so it; which fact helps to explain why sanitary experts claim that every dwelling shall have good air space, and freedom for admission of sunlight into and about it.*

In 1893 I first offered to disinfect gratuitously the rooms, which had been occupied by a tuberculous patient, after the removal by death, or otherwise, of the victim of the *tubercle bacillus*; and there has been a really remarkable growth of opinion on the part of the public that it is a wise step to have rooms, etc., disinfecting after death has occurred from tuberculous diseases.

The *tubercle bacillus* is *coughed up* constantly in large numbers *with the spittle* of consumptive people, and this same bacillus is present commonly in the discharges from tuberculous glands, abscesses, &c. Should hæmorrhage occur, the specific bacilli will pretty certainly be carried out with the blood. Hence the importance of either rigidly disinfecting (boiling is a good method) or burning any rags, clothes, &c., soiled with the blood or expectoration. For if the extruded matter be left to dry, it will, in time, become fine dry dust; which dust may be kicked or brushed up into the air, and as it contains the potentially active bacilli, it may be the means of introducing these into the bodies of others; or the cougher-up of the infective material may, in this way, *infect his own and other's food*, and re-infect himself. It is only a piece of enlightened self-interest on the part of a consumptive to take care that all expectorated matter is disinfecting rigidly, or, what is better, burnt promptly; but it is also his imperative duty to minimize the risk to his fellows by so doing. It is *what a consumptive coughs up* that is to be feared; not his mere breath—one may sit, for example, in the same room with him, if it is well ventilated; and his habits be cleanly, without practical risk. Spitting about in public places and vehicles becomes, when the spitter is a consumptive, in addition to being a disgusting habit, a dangerous one as well; a habit that should be discouraged vigorously, alike in the interests of decent manners and of the general health. A consumptive can always carry a damp rag with him, which rag he can burn easily.

Unfortunately, a very large number of people inherit a predisposition, that—is a heightened liability to fall victim to tuberculous disease, and many others favour the development of the disease in themselves, through lowering their general tone by living amid surroundings of a depressing character, such as *ill-lighted, dusty, and badly-ventilated* shops, heated work-rooms, houses and offices. A person enjoying fairly good health may, and probably does, take in tubercle bacilli from time to time with his food and air; but commonly the resisting power of his tissues is able successfully to cope with the invaders; the person, however, whose

health is below par, and whose tissue-resistance is enfeebled, such an one all too frequently succumbs--and the onset is so insidious that the bacilli may gain a firm hold before the mischief is noted. The great general preventatives of consumption are *good food, sunlight, and fresh unbreathed air*. There are grounds for believing that *pulmonary tuberculosis is due, more often than is supposed, to transference of infection from the ailmentary tract*. When a member of a household has fallen a victim to one or the other of the tuberculous diseases, it is not necessary to treat him as a social leper. If precautions be taken to prevent *anything he coughs up* from ever drying, and if the rooms occupied be ventilated effectively, he may share the ordinary family life. He should, however, sleep in a bed by himself, and where practicable, *in a separate room*; this room should be as large as possible, and the consumptive should early acquire the habit of *keeping the windows always OPEN*, supposing as is commonly the case, there is no other means of admitting fresh air; perhaps the simplest, and certainly one of the best means of doing this, is to insert a good-sized grating at *the floor level* in the external wall, delivering if possible, *fresh air under the bed* (by means of a simple valve the incoming air can be directed upwards to the bottom of the bed); the atmosphere of the room can then always be kept refreshing and healthsome, whether the windows be closed or not.

In towns the air may be rendered more acceptable to the irritated lung tissues by causing it to pass through a screen of stretched flannel, which will filter out effectually from the air particles of dust, "blacks," &c. *Under no circumstances is it prudent to turn the room into practically a closed box*. Let the bed clothing be warm and light, *e.g. ventilated eiderdown quilts*. With good air, cold never need be feared. I do not believe that moisture is detrimental to a consumptive, but I do believe that the lowered barometric pressure which usually accompanies it is, by leading to the engorgement and relative congestion of the superficial vessels. The important point is to keep a consumptive irrigated constantly *with unbreathed air*. It is when the bacillus-riddled victim of

tuberculous disease becomes too weak to attend to himself carefully that the great risk of infecting his bedding, &c., and room occurs, and hence the sensibleness of having these carefully disinfected, after Pale Death have entered with equal foot, whether it be into the hovels of the lowly or the halls of the great.

Tuberculous disease may be conveyed to the human being by other animals, notably, by cattle. Dairy cows, in particular, if kept in over-crowded and badly-ventilated sheds, fall ready victims to tuberculous disease, and, *through their milk*, may convey it to milk-feeding people, *particularly children*. This danger, in a great measure, may be guarded against by, *in all cases, boiling or otherwise thoroughly cooking suspected milk* before consuming it. There is a lessened but still sensible risk in eating the flesh of tuberculous cattle, for the risk cannot be entirely banished by cooking, the interior portion of joints, etc., rarely reaching a temperature sufficiently high to kill the bacilli.

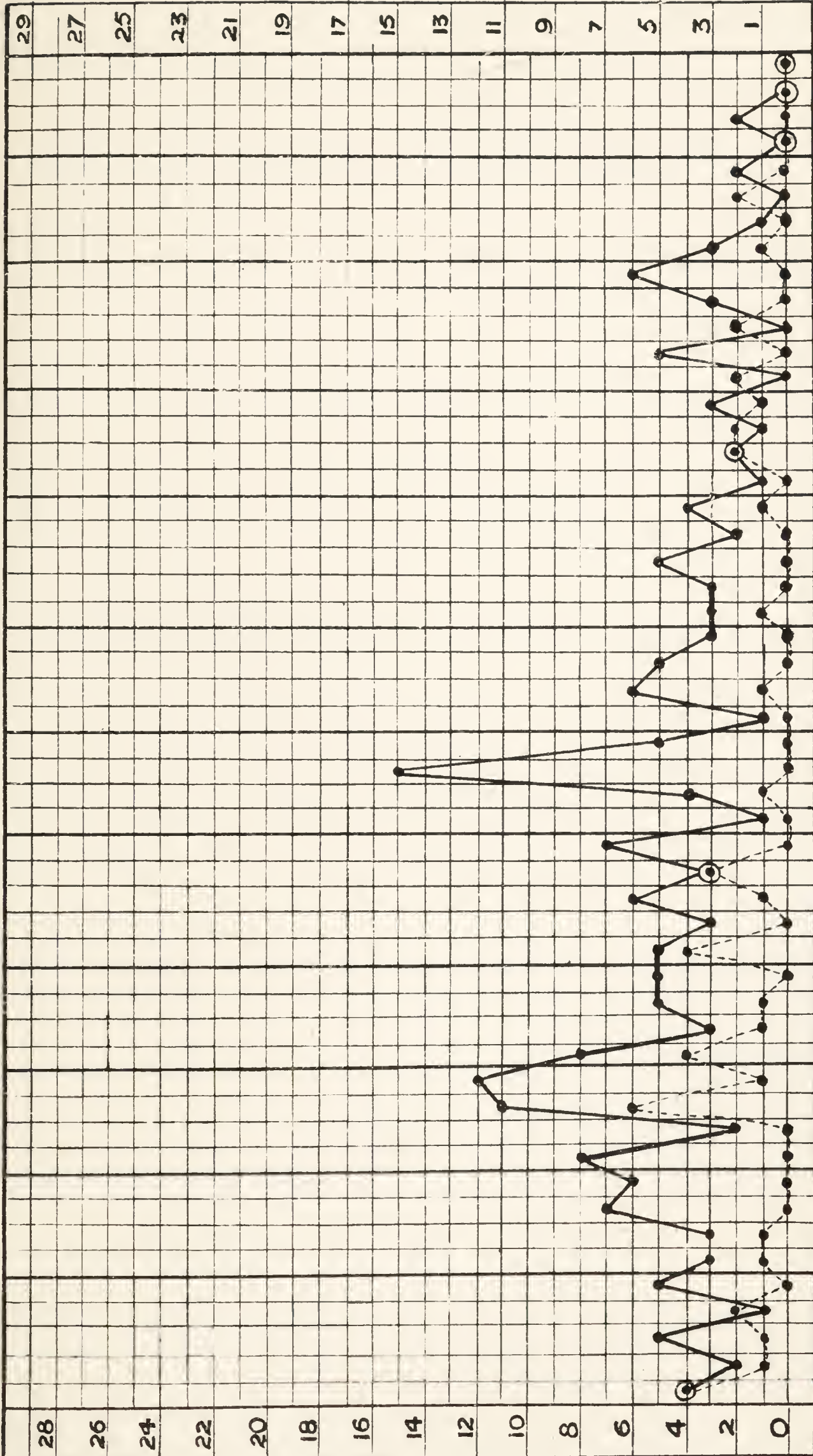
The following were the occupations of the patients suffering from Tuberculosis (all forms):—Boot and Shoe Workers 37, Brushmakers 3, Barmen 2, Butcher 1, Book Folder 1, Cabinet Makers 2, Carters 2, Clerks 2, Compositor 1, Cook 1, Charwomen 2, Caretaker 1, Commercial Traveller 1, Domestics 5, Detective 1, Dairyman 1, Engineer 1, Governess 1, Gardener 1, House-keepers 2, Housewives 20, Hawkers 2, Hairdressers 4, Labourers 12, Laundresses 3, Last Maker 1, Musicians 2, Miller 1, Nurses 2, Printer 1, Painters 2, Packers 2, Railway Platelayer 1, School Teacher 1, Shop Assistants 8, Soldier 1, Sawyer 1, Silk Weaver 1, Stonemason 1, Singer 1, School Children 63, Tailor 1, Tailoresses and Dressmakers 7, Turnshoe Maker 1, Tramway Point Duty 1, Upholsterers 1, Waitresses 4, Wood Machinist 1, No Employment 10, Not known 22. Total 247.

Notifications of Tuberculosis of Lungs (Phthisis): — Black Lines. — Weekly average 3.85.

other Tubercular Diseases: — Black Dashes. — Weekly average .9.

1914

1914

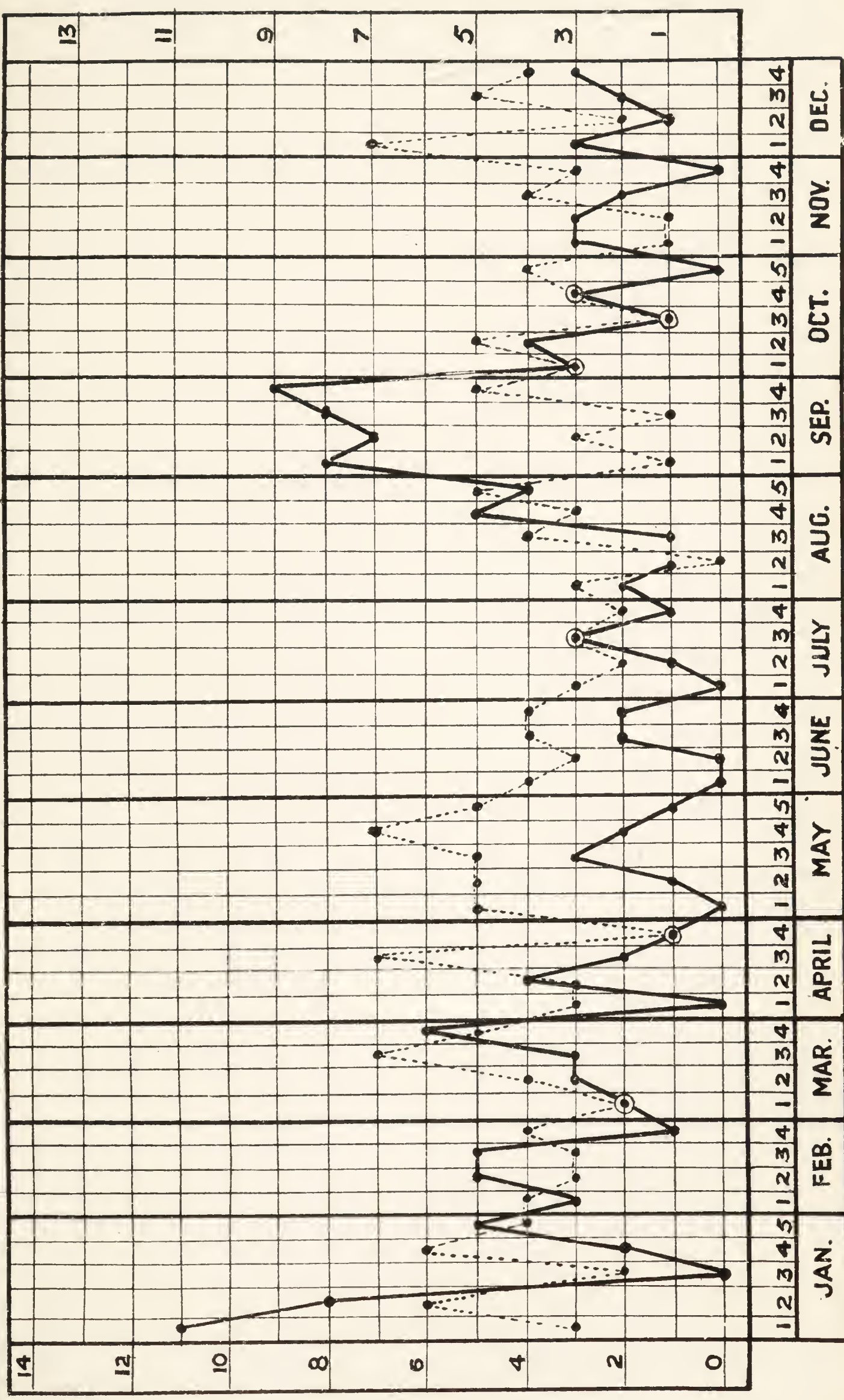


Deaths from Zymotic Diseases:— Black Lines. ———

Tuberculous Diseases:— Black Dashes. - - - - -

1914

1914



PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912.

Summary of Notifications during the period 1st January, 1914, to the end of the week on the 2nd January, 1915.

AGE PERIODS.	No. of NOTIFICATIONS ON FORM A.											FORM OF NOTIFICATION ON FORM B.			No. of NOTIFICATIONS ON FORM C.									
	Primary Notifications.											Total Notifications, <i>i.e.</i> , cases previously notified by other doctors.			Primary Notifications.			Total Notifications, <i>i.e.</i> , cases previously notified by other doctors.			Poor Law Institutions.		Sana- toria.	
	0-1.	1-5.	5-10.	10-15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 and up-wards.	Total.	Un-der 5.	5 to 10.	10 to 15.	Total.	Un-der 5.	5 to 10.	10 to 15.	Total.				
Pulmonary Males	1	1	5	6	16	23	7	5	3	2	69	70	...	8	8	16	35	48					
Pulmonary Females	...	2	4	5	10	9	14	11	3	3	2	63	71	...	11	7	18	15	18					
Non-Pulmonary Males	...	6	4	2	...	1	2	2	...	...	...	17	18	...	1	1	2	2	1		
Non-Pulmonary Females	...	2	4	4	4	1	...	1	...	1	...	17	17	...	4	2	6	5	...					

HOUSING, TOWN PLANNING, &c., ACT, 1909.

The procedure adopted by the Health Committee is, on receipt of representations from the Medical Officer respecting the character of defects found in houses inspected under this Act, to sit as a Housing Committee (*i.e.*, taking housing matters only), and after hearing what the Medical Officer has to say, to visit the houses, and then summon the owners to a meeting of the Committee (held usually at the conclusion of the tour of inspection) to hear what proposals they have to make; assent to or dissent from these, and, if the latter, direct a Closing Order to be issued.

Summary of Houses dealt with during the Year—

Number of dwelling houses inspected under and for the purpose of Sec. 17 of the Act 1909	...	112
Number of dwelling houses which on inspection were considered by the M.O.H. to be in a state so dangerous, or injurious to health, as to be unfit for human habitation	... ..	33
Number of representations made by M.O.H.	...	16
Number of closing orders made	... ..	16
Number of dwelling houses which, after the making of Closing Orders, were put into a fit state for human habitation	... ..	—
Number of dwelling houses which were remedied without the making of Closing Orders	...	13
Demolition orders	... ..	7

The Housing Committee visited 38 dwellings.

Ten owners were invited to attend at the Committee, representing 49 properties.

Total Tenements and Tenements of less than Five Rooms, distinguishing those occupied by various numbers of Persons, in the County Borough and City of Norwich and its Constituent Wards, 1911.

WARDS.	Families or separate occupiers.	Population	Total Tenements	Number of Rooms in each Tenement.	NUMBER OF OCCUPANTS IN EACH TENEMENT.												Number of Tenements of less than five rooms.
					1	2	3	4	5	6	7	8	9	10	11	12 or more	
NORWICH, City of	28234	121478	28081	1 2 3 4	235 496 179 291	87 489 398 937	16 237 339 910	11 169 268 748	6 91 181 560	1 32 134 389	... 8 83 264	... 6 49 126	... 2 20 77	... ... 9 22	... ... 6 6	356 1530 1668 4334
No. 1 or CONESFORD	1186	5207	1163	1 2 3 4	12 39 20 12	11 45 35 36	1 21 28 37	1 19 22 30	1 6 15 25	1 ... 2 8	... 1 9 10	... ... 6 4	... ... 1 3	... ... ... 2	... ... 1 ...	27 131 139 167
No. 2 or BER STREET	1745	7479	1738	1 2 3 4	17 51 15 37	3 49 37 102	1 21 32 88	... 15 24 69	... 9 19 67	... 9 12 42	... 1 11 27	... ... 5 16	... ... 4 9	... ... ... 1	... ... 2 1	21 156 161 461
No. 3 or MANCROFT	713	3041	697	1 2 3 4	11 29 12 7	2 20 23 32	... 11 16 34	... 5 14 14	... 2 9 7	... ... 6 14	... ... 5 6	... ... 3 2	... ... ... 2	... ... 1 ...	... ... ... ...	13 67 89 118
No. 4 or WESTWICK	1386	5418	1373	1 2 3 4	38 68 15 20	12 46 50 76	2 23 28 63	1 19 32 48	1 8 18 46	... 1 11 23	... ... 6 15	... ... 10 6	... ... ... 6	... ... 1 4	... ... ... ...	54 165 171 307
No. 5 or COSLANY	1531	6275	1522	1 2 3 4	74 55 20 26	34 78 57 56	3 45 53 69	5 31 43 70	2 19 34 40	... 5 37 41	... 4 19 32	... 3 9 19	... 1 6 10	... ... 3 5	... ... 1 1	118 241 283 369
No. 6 or FYE BRIDGE	1630	6748	1621	1 2 3 4	37 86 14 15	11 96 54 63	1 45 64 57	1 32 47 46	... 18 31 33	... 9 41 28	... ... 19 30	... ... 10 16	... 7 3 6	... 3 1 3	... ... 1 ...	50 286 291 297
No. 7 or THORPE	1899	8703	1877	1 2 3 4	4 19 5 4	... 17 14 36	1 8 10 31	... 6 9 37	... 3 6 20	... 1 4 17	... ... ... ...	... ... 1 3	... ... 1 6	... ... ... 1	... ... ... ...	5 54 50 164
No. 8 or LAKENHAM	1351	5726	1345	1 2 3 4	1 13 9 27	... 19 15 90	1 4 13 66	... 5 15 77	... 4 6 56	... ... 4 30	... ... 5 23	... ... 3 5	... ... ... 5	... ... 1 1	... ... ... ...	2 45 71 381
No. 9 or TOWN CLOSE	1619	7121	1615	1 2 3 4	10 34 13 18	... 30 20 75	... 7 19 96	... 8 16 60	... 5 9 60	... 2 4 39	... ... 3 15	... 1 ... 4	... ... ... 4	... ... 2 1	... ... ... ...	10 87 84 391
No. 10 or EATON	3620	14560	3611	1 2 3 4	9 11 1 11	... 3 6 28	... 1 7 29	... ... 1 19	... ... 1 16	... ... 1 12	... ... 1 8	... ... ... 2	... ... ... 2	... ... ... ...	... ... ... ...	9 15 18 127
No. 11 or NELSON	1514	5732	1509	1 2 3 4	10 26 16 37	... 17 19 100	... 3 12 93	... 3 12 73	... 1 3 43	... 1 ... 39	... ... ... 15	... ... ... 4	... ... ... 4	... ... ... 1	... ... ... ...	10 51 62 409
No. 12 or EARLIHAM	1567	7048	1560	1 2 3 4	1 8 8 11	... 4 6 20	... 1 2 33	... 1 2 21	... ... 2 8	... ... 1 7	... ... ... 2	... ... ... 2	... ... ... ...	... ... ... ...	... ... ... ...	1 14 22 104
No. 13 or HEIGHAM	1627	7240	1621	1 2 3 4	1 7 3 12	... 9 6 42	... 2 3 37	... ... ... 27	... ... ... 21	... ... ... 10	... ... ... 4	... ... ... 3	... ... ... ...	... ... ... ...	... ... ... ...	1 18 12 156
No. 14 or WENSUM	1361	6019	1359	1 2 3 4	1 14 10 14	1 17 18 72	... 8 11 55	... 3 6 37	... 4 9 45	... ... 1 25	... ... 2 26	... ... ... 9	... ... 1 10	... ... ... ...	... ... ... 1	2 46 58 295
No. 15 or CATTON	2679	11750	2673	1 2 3 4	1 18 13 26	... 16 22 68	... 11 22 78	... 8 18 77	... 1 9 48	... 2 6 33	... ... 2 20	... ... 1 11	... ... ... 8	... ... ... 2	... ... ... 1	2 56 94 372
No. 16 or MOUSEHOLD	2806	13411	2797	1 2 3 4	8 18 5 14	13 23 16 41	6 26 19 44	2 14 7 43	2 11 10 25	... 2 4 21	... 2 1 15	... 1 1 11	... ... ... 2	... ... ... ...	... ... ... ...	31 98 63 216

Persons in Public and Charitable Institutions, Military and Naval Establishments, Hotels, Boarding Houses, and Business Establishments are excluded from the Tables, as are also persons on board vessels, or sleeping in caravans, tents, sheds, &c., or in the open air. The figures may therefore be taken to relate as nearly as possible to "Private families."

BUILDINGS OF VARIOUS KINDS

(Extract from Vol. VI. Census of England and Wales).

	1901.	1911.										BUILDINGS NOT USED AS DWELLINGS.		No.
	Total.	BUILDINGS USED AS DWELLINGS.												
		Total Cols. 4-11.	Ordinary Dwelling Houses.	Blocks of Flats.	Shops.	Hotels, Inns, or Public Houses.	Offices, Ware- houses, Work- shops, Factor- ies.	Institu- tions.	Others.	Ves- sels, Sheds, Va- grants, &c.	Separ- ate Flats (in- cluded in Col. 5)			
Cols. 1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	
Norwich, City of, C.B.														
Numbers inhabited...	25,652	27,824	25,815	25	1,370	464	62	57	31	—	58	Places of Worship ...	101	
Separate occupiers ...	26,048	28,234	26,143	58	1,386	469	62	62	33	21	58	Government and Municipal Buildings	10	
Population ...	113,922	121,478	109,013	168	6,000	2,199	220	3,704	134	40	168	Shops ... Offices ...	790 152	
Uninhabited ...	1,870	1,566	1,353	—	174	11	23	3	2	—	15	Warehouses, Work- shops, Factories ...	595	
Being built ...	225	82	81	—	—	—	1	—	—	—	—	Theatres & other places of amusement ...	7	

REPORT

OF THE

CHIEF SANITARY INSPECTOR.

HEALTH DEPARTMENT,

MUNICIPAL BUILDINGS,

Norwich, 1915.

TO THE MEDICAL OFFICER OF HEALTH.

DEAR SIR,

The following is a synopsis of the principal work carried out during the year ending December 31st, 1914.

In order that comparisons and references may be easily made, I have so far as possible followed up the form of report adopted during the past years.

- 3,639 Nuisances detected.
- 1,424 Notices served by order of the Health Committee.
- 1,004 Preliminary Notices served.
- 13,150 Premises re-inspected.
- 2,381 Nuisances have been abated.
- 5,147 Special complaints have been received and the premises inspected.
- 1,329 Letters sent in order to obtain the abatement of nuisances, &c.
- 130 References to the City Engineer.
- 137 References to the Water Works Company.

The following are the principal matters that have been dealt with :—

533	Orders served to provide efficient closets.
528	„ „ repair defectively paved yards.
222	„ „ repair or disconnect rain water pipes.
396	„ „ cleanse and unstop yard drains.
1,463	„ „ provide efficient privy pans and dust receptacles.
146	„ „ efficiently trap yard drains with gullies.
141	„ „ repair defective water closets.
48	„ „ cleanse dirty houses.
100	„ „ remove and cease to keep animals.
221	„ „ repair defective house roofs, floors, &c.
85	„ „ remove foul accumulations.
46	„ „ abate overcrowding.
122	„ „ repair defective eaves gutters.
89	„ „ repair or disconnect sink waste pipes.
27	„ „ empty and cleanse foul cesspools.
16	„ „ provide premises with a proper supply of water.

PRIVY CONVERSIONS.

Private owners continue to convert privies into water closets without notice from the Corporation. During the past year 91 privies have been so converted.

INFECTIOUS DISEASES.

2,399 visits have been paid to infected premises.

1,908 rooms have been disinfected upon the removal or recovery of the patient.

Liquid and powder carbolic disinfectants have, as is former years, been given to householders gratuitously in all cases of infectious disease, and for disinfecting purposes generally.

HOUSE TO HOUSE INSPECTION.

633 houses and premises have been visited.

YARD AND COURT INSPECTION.

5,517 visits have been paid to Yards and Courts.

The privies and yards found dirty were cleansed at the request of the Inspectors. Other sanitary defects found are dealt with under term "Nuisances" in a preceding column.

SLAUGHTER-HOUSES.

Number of Registered and Licensed Slaughter-houses, 39.

3,451 visits have been paid to Slaughter-houses.

It was found necessary to caution several occupiers of Slaughter-houses respecting the dirty condition of the walls and floors, and the non-removal of refuse in accordance with the Slaughter-house Bye-laws.

MARKETS.

The Fishmarket has been visited and inspected daily, and the Vegetable, Fruit, and the Provision Markets on Market Days.

The Inspectors on duty every Saturday evening for the purpose of inspecting the meat, poultry, fish, &c., exposed for sale in the Provision Market, and for examining articles of food exposed for sale in the poorer parts of the City, have on several occasions found it necessary to deal with various articles of food which were in a condition unfit for the food of man, and such articles have been included in the undermentioned list of unsound food.

UNSOUND FOOD.

The following have been destroyed as being unfit for human food, with the consent of the owners:—

- 11 Carcases of Beef.
- 16 Carcases of Mutton.
- 3 Carcases of Pork.

- 2 Carcases of Calves.
- 13 Ox Livers.
- 2 Ox Kidneys.
- 4 Ox Lights.
- 1 Ox Spleen.
- 1 Ox Head.
- 1 Ox Tripe.
- 1 Ox Intestines.
- 132 Stones of Frozen Beef.
- 2 Hindquarters of Beef.
- 2 Calves' Heads.
- 4 Sheep's Plucks.
- 1 Sheep's Liver.
- 1 Sheep's Skirt.
- 2 Forequarters of Mutton.
- 1 Pig's Head.
- 4 Stones of Pork.
- 2 Sides of Veal.
- 1 Keld Fat.
- 1 Crown Fat.
- 80 Gallons of Piccalilli.
- 4 Bags of Cockles.
- 3 Bags of Crayfish.
- 1 Tin of Salmon.
- 1 Basket of Shrimps.
- 3 Baskets of Prawns.
- 2 Stones of Codlings.

PROCEEDINGS UNDER THE SALE OF FOOD AND DRUG ACT.

During the year 232 samples of food and drugs have been submitted for analysis :—

Description of Samples.	No. of Samples.	Result of Analysis.	
		Genuine.	Adulterated.
Milk	123	105	18
Butter	17	17	—
Sugar	6	6	—
Pork Dripping	1	1	—
Pepper	3	3	—
Arrowroot	2	2	—
Milk and Water	1	1	—
Ice Cream	6	6	—
Lime Juice	5	5	—
Port Wine	2	2	—
Orange Wine	2	2	—
Lemon Squash	1	1	—
Ginger Wine	2	2	—
Raisin Wine	1	1	—
Black Currant Wine	2	2	—
Brandy	3	3	—
Cheese	3	3	—
Raspberry Jam	1	1	—
Strawberry Jam	1	1	—
Potted Beef	1	1	—
Baking Powder	3	3	—
Rice	2	2	—
Oatmeal	1	1	—
Margarine	4	4	—
Demerara Sugar	1	1	—
Bread and Butter	6	6	—
Mince Meat	3	3	—
Crushed Linseed	4	3	1
Lime Water	6	5	1
Milk of Sulphur	5	5	—
Linament of Ammonia	5	5	—
Ammoniated Quinine	3	3	—
Olive Oil	1	1	—
Almond Oil	2	2	—
Eucalyptus Oil	3	3	—
	232	212	20

12 of the above samples were taken informally.

Number of Samples of Milk taken on Sundays, 25.

In 15 cases proceedings were taken against vendors of adulterated articles :—

13 in cases of adulterated Milk.

1	„	„	Crushed Linseed.
1	„	„	Lime Water.

In 9 cases the magistrates convicted and imposed fines varying from 3/- and 7/- costs, to £10 and 7/- costs.

2 cases of Milk and 1 case of Lime Water, were dismissed on payment of costs.

1 case of Milk was withdrawn on payment of costs.

2 cases of Milk were dismissed.

In 4 cases of Milk the vendors were written to and cautioned.

In 1 case of Milk no proceedings were taken.

PROCEEDINGS UNDER THE RAG FLOCK ACT.

1 Sample has been taken under the above Act, and certified to contain soluble chlorine in the form of chlorides 113.75 parts per 100,000.

Proceedings were taken and the case was dismissed.

Particulars of the prosecutions are given below :—

No.	Date.	Adulteration.	Article.	Fine.
	1914.			
14	Mar. 18th	10½ per cent. added water	Milk	£1 and 7/- costs
38	April 17th	8 per cent. fat deficient	„	10/- and 7/- costs
39	„ 17th	15 „ „	„	Dismissed
52	„ 17th	15 „ „	„	10/- and 7/- costs
55	June 8th	10 „ „	„	Dismissed on pay-
				ment of 7/6 costs
67	„ „	4½ per cent. added water	„	Dismissed on pay-
				ment of 7/6 costs
75	„ 23rd	12 per cent. fat deficient	„	Dismissed
84	July 22nd	5½ per cent. added water	„	30/- and 7/6 costs
125	Oct. 20th	20 „ „	„	£10 and 7/- costs
126	„ „	28¼ „ „	„	Withdra'n on pay-
				ment of 3/6 costs
135	Nov. 23rd	14 per cent. fat deficient	„	£5 and 17/6 costs
165	„ „	18 „ „	„	£2 and 7/- costs
193	Dec. 16th	73 per cent. lime deficient	Lime	Dismissed on pay-
	1915.		Water	ment of 4/6 costs
207	Jan. 8th	27½ per cent. oil deficient	Crushed	4/- and 6/- costs
			Linseed	
226	„ „	10 per cent. added water	Milk	3/- and 7/- costs

The following prosecutions were also taken, viz. .

Date.	Particulars.	Fine.
1914.		
April 17th	For obstructing one of the Assistant Inspectors	10/- and 6/- costs
„ 29th	For killing after 11 p.m. without giving notice	£1 and 8/- costs
June 8th	For overcrowding cattle in a yard	Dismissed on pay-
		ment of 8/6 costs
July 22nd	For obstructing one of the Assistant Inspectors	Dismissed

WATER ANALYSIS.

5 samples of water have been taken from pumps and draw wells, which were certified “passable.”

COWSHEDS, DAIRIES, AND MILKSHOPS.

Cowsheds—

Number on Register, 61.

Number of Cows, 570.

Dairies—

Number on Register, 26.

Milkshops—

Number on Register, 202.

„ of applications for registration, 22.

„ of milkshops closed, 37.

While many milkshops are kept scrupulously clean, there are a number where the milk is kept in close proximity to other articles which are likely to contaminate the milk.

It is much to be hoped that the granting of licenses to unsuitable persons will shortly be forbidden by regulations.

COMMON LODGING-HOUSES.

The Common Lodging-Houses have been visited weekly, and were found to be conducted in a fairly satisfactory manner.

HOUSES LET IN LODGINGS.

435 visits have been paid to houses let in lodgings, and many rooms were limewashed at the request of the Inspectors.

CARAVANS.

29 inspections of caravans have been made.

MEETINGS OF OWNERS.

566 meetings of owners have been held.

OFFENSIVE TRADES.

607 inspections have been made of premises where offensive trades are carried on.

SMOKE OBSERVATIONS.

92 smoke observations have been taken.

It has been necessary to caution several manufacturers and firemen, and recommend the use of a better class of coal and the exercise of greater care in firing.

SHOPS ACT, 1912-13.

805 inspections have been made to see that the requirements of the above Act were carried out.

MILK AND CREAM REGULATIONS.

8 samples were taken and submitted for analysis under the above Regulations and certified genuine.

17 visits have been paid to Hotels, Restaurants, &c., to see that the requirements of these Regulations were carried out.

PIGGERIES.

126 visits have been paid to Piggeries, many of which have been cleansed at the request of the Inspectors.

BAKEHOUSE INSPECTION.

Number of Bakehouses on Register, 148.

Visits paid to Bakehouses, 308.

MARGARINE ACT.

334 inspections have been made of premises to see if Margarine was sold, and where such was the case, to see that the requirements of the Margarine Act were carried out.

FACTORIES AND WORKSHOPS.

Total number of Workshops in the City	...	622
Number of New Workshops Inspected	...	46
Total number of Factories in the City	...	385
Number of Outworkers' Premises visited by		
Male Inspectors	...	409

The undermentioned are the insanitary conditions that have been dealt with at the above class of premises :—

78 Workshops and Workrooms have been cleansed and limewashed.

12 Water Closets provided.

1 Case of overcrowding has been dealt with.

3 Workshop floors, roofs, etc., defective.

4 Defective Water Closets.

7 Cases of insufficient drainage have been dealt with.

In 1 case the W.C. accommodation was efficiently screened from the workroom.

SCAVENGING.

During the year 1,934 loads of Privy Bin Refuse were removed by the Night Waggon, and 26,273 loads of House Refuse by the Dust Waggon in the daytime.

11,941 loads of refuse were removed by the Wherry at the Fishergate Dépôt.

MEMORANDUM.

There are 878 Privy Pans and 397 Privy Bins in the City while 27,116 houses are provided with water-closet accommodation.

I am, Dear Sir,

Yours obediently,

JOSEPH BROOKS, M.S.I.A.,

Chief Sanitary Inspector.

